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U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Coos Bay District Office
333 South Fourth Street
Coos Bay, Oregon 97420

South Coast - Curry Timber Management Plan Record of Decision



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Record of Decision



United States Department of the Interior

Coos Bay District Office
333 South Fourth Street
Coos Bay, Oregon 97420

April 28, 1983

Dear Concerned Citizen,

This document is the record of decision for the South Coast-Curry Timber Management Plan. It represents the final step in a long and sometimes difficult process that began in 1977. For those of you who have been involved with us in this process, I extend my sincere and heartfelt thanks. Your suggestions, challenges and insight have played a major role in shaping this decision as well as basic forest policy for the O&C lands. From this cauldron of interaction has emerged a balanced plan that will serve well the people of Oregon and the nation.

Sincerely,

Thomas W. Roessler

Thomas W. Roessler
District Manager

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April 28, 1983

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COOS BAY TIMBER MANAGEMENT PLAN ANNOUNCED

Timber sales offered by BLM's Coos Bay district could increase by almost 9 percent, to an average of about 254 million board feet per year, according to a 10-year timber management plan announced today by Tom Roessler, acting BLM Coos Bay district manager.

At the same time, a modification of land use includes a provision for 8 percent of the commercial forest land to be maintained during the period to provide mid-age and old-growth timber stands, important for wildlife and other purposes.

The decision, released by BLM's Oregon State Director William G. Leavell, arises from planning recommendations and an associated environmental impact statement. Alternatives analyzed in the statement were modified by BLM's Coos Bay district in response to public comments and BLM's forest management policies.

Leavell said, "the plan is estimated to support about 3,970 jobs with \$54.5 million in annual earnings. This is about 9.5 percent more than the previous 10-year planning cycle."

"We considered many diverse needs in reaching this decision," said Roessler. "We also were guided by many laws and policies including the recently revised O&C forest resource policy. The result is a balanced plan that will serve Oregon and the nation well."

Copies of the decision are being mailed to many resource interest groups and to those who commented on the plan in its earlier stages of development, Leavell said. Copies are also available in western Oregon BLM offices or by writing to the Coos Bay District Office, 333 S. 4th St., Coos Bay, Oregon 97420.

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Decision

It is my decision to adopt Alternative 6 of the South Coast-Curry Timber Management Environmental Impact Statement of March 1981, with the following modifications:

- the Visual Resource Management Class III land-use allocations are deleted and the acreage involved is added to the Intensive Timber Management base.
- the land-use allocation of 36,500 acres on a long rotation for "Habitat Diversity" will be modified as follows: the 25,300 acres of mid-age and old-growth components will be excluded from timber harvest to maintain future options for their management while research is underway. The replacement acreage portion of the original allocation, consisting primarily of 11,000 acres of timber stands less than 120 years of age, is returned to the Intensive Timber Management base.

Furthermore:

- the mitigation measures and design features described in the South Coast-Curry EIS represent the most reasonable and practicable means to minimize or avoid environmental harm and should be adopted or implemented.
- the use of these mitigation measures and design features, as well as the technical assumptions and land-use plans on which the allowable cut is based, be monitored so that consistency is maintained during operations under this plan.
- the applicable land-use decisions contained in the Management Framework Plan be adopted and implemented.

This decision is to become effective October 1, 1983.

Signed: Thomas C. Russell

Date: APR 28 1983

District Manager, Coos Bay

I concur and hereby declare that effective October 1, 1983, the annual productive capacity (allowable harvest) level of the South Coast Master Unit is 40,100,000 cubic feet.

Signed: William D. Jeannel

Date: APR 28 1983

State Director, Oregon



Introduction

Decision Summary

This is a summary of the South Coast-Curry Timber Management Plan for the Bureau of Land Management's Coos Bay District.

The decision is to adopt a slightly modified version of Alternative No. 6 in the final Environmental Impact Statement (labeled Alternative D in the appendix of this document).

The central feature of the plan is the annual allowable harvest of 40.1 million cubic feet (approximately 254 million board feet, MM bd. ft., Scribner 16-foot equivalent) of timber from the 306,000 acres of commercial forest land (CFL) in the District. This level of timber production is 9 percent greater than the level of 234 MM bd. ft. which was set for the 1970s. The increase is expected to benefit the local economy, which is largely based on logging and the manufacture of wood products.

The CFL base only includes District land capable of annually producing at least 20 cubic feet of timber per acre. However, not all lands included in CFL are capable of sustained production and repeated harvest of timber. Also, provision must be made for other necessary land uses in addition to timber production. Considered in this planning process were such values as recreation, scenic resources, riparian areas and their inherent protection of water quality, fish and wildlife habitat, and the protection of long-term timber productivity.

This plan allocates about 243,300 acres, or 80 percent of the CFL to intensive timber management. Practices to be followed there include timber harvest, site preparation for reforestation, tree planting, animal damage control, release of tree plantations from competing vegetation, precommercial thinning, genetic tree

improvement and fertilization. This land is expected to produce 252 MM bd. ft. of timber annually.

Another 2 MM bd. ft. will be harvested annually from about 4,300 acres of scenic land, where timber harvest and road construction will be designed so as not to be visually evident from major travel routes.

Acreage in the CFL allocated to uses other than planned regular timber harvest includes: 10,800 acres (4 percent of CFL) in riparian areas, which are a type of wetlands along major streams; and 22,100 acres (7 percent of CFL) designated as fragile areas, incapable of supporting sustained yield timber management using current technology.

Fish and wildlife have been recognized as valuable resources, and their habitat requirements are addressed in various ways. Fragile areas and riparian zones, which provide wildlife habitat, have been safeguarded by removing these lands from the timber production base. On the lands in the intensive timber base, various mitigation measures and design features will be used to minimize the impacts on wildlife. In addition, 25,300 acres of mid-age and old-growth timber have been temporarily excluded from intensive timber management under this plan. These older components of the forest will provide a reasonable probability of maintaining viable populations of old-growth related species, including 16 pairs of northern spotted owls. These components also include functioning old-growth systems distributed by seed zone and elevation in order to safeguard long-term timber production. Current research is expected to provide additional knowledge which will aid during the next planning cycle in deciding the importance of maintaining or dropping these older seral stages.

The plan calls for an eventual timber harvest rotation of 80 years. However, harvesting of 40-year-old trees would begin in about 30 years and continue for about 50 years.

Full implementation of the decision would carry a cost of approximately \$8.9 million annually.

Salient features of the decision, the plan developed for the 1970s, and the action proposed in the final Environmental Impact Statement (EIS) are listed in Table 1.

Table 1 - Program Comparison

| | Decade of the 1970s | Final EIS Proposed Action | The Decision |
|---|---------------------|---------------------------|---------------|
| Acres in Intensive Management | 264,300 | 210,400 | 243,300 |
| Acres in Constrained Management | | | |
| VRM II (scenic) | 2,700 ¹ | 4,100 | 4,300 |
| VRM III | 0 | 20,000 | 0 |
| Wildlife Habitat | 4,200 ¹ | 36,500 | 0 |
| Acres Withdrawn | | | |
| Riparian Zones | 0 | 10,800 | 10,800 |
| Fragile Sites | 0 | 22,100 | 22,100 |
| Mid-age/Old-growth | 0 | 0 | 25,300 |
| Allowable Cut | 234 MM bd.ft. | 218 MM bd.ft. | 254 MM bd.ft. |
| Total Work-Years ² | 3,627 | 3,408 | 3,970 |
| Total Personal Income ² (\$ million) | 49.8 | 46.8 | 54.5 |
| Timber Sale Receipts (\$ million) ³ | 65.3 | 60.8 | 70.9 |
| Timber Sale Receipts (\$ million) ⁴ | 30.0 | 27.9 | 32.5 |

¹ Acreage actually withdrawn in 1970 plan

² See Appendix A, Guide to Discussion, for definition.

³ Using calendar year 1981 average selling price at \$279/M bd.ft.

⁴ Using fiscal year 1982 average selling price at \$128/M bd.ft.

Purpose and Scope

The rationale for this decision was developed from an analysis of the 10 alternatives presented in the EIS as well as the proposed decision published on September 23, 1982. The plan will be described briefly, along with an assessment of the funding needed for implementation and plans for monitoring and research. More specifically, this document has the following major aims:

- To outline the evolution of BLM policy for O&C lands, and show its relationship to the decision.
- To show how the decision ties to the land-use planning and environmental analysis processes.
- To identify the significant environmental, economic and social impacts of the decision.

This document is summary in nature and limited to those factors and data having a significant bearing on the decision. The Management Framework Plan (MFP), which forms the basis for this Timber Management Plan, contains descriptions of extensive and wide ranging operational management tools related to soil stabilization, water quality maintenance and fish and wildlife habitat protection and enhancement. Because of the detailed nature of these tools and the fact that their application is not dependent on the alternative selected, they will not be discussed in detail in this document. An in-depth understanding of the plan can be gained by reviewing the final "South Coast-Curry Timber Management Environmental Impact Statement," Oregon State Office, BLM, March 1981; and the Management Framework Plan.



Background

The South Coast-Curry Sustained Yield Units are comprised of 326,372 acres of public land in southwest Oregon, of which about 306,000 are CFL. This area contains some of the most productive timber lands in the United States as well as highly valued wildlife, fisheries, recreational and scenic resources. The basic land pattern of alternating public and private sections grew out of the Oregon and California Railroad and Coos Bay Wagon Road grants, and subsequent revestment in 1916. There are also scattered remnants of the original Public Domain lands. Most of the intermingled private land is managed by wood-products firms.

The other federal lands represented in the planning area are the Siuslaw National Forest on the northern end and the Siskiyou National Forest along the southern portion. Bureau-managed lands comprise about 17 percent of the region and contain approximately 27 percent of the remaining saw timber volume.

In July 1971, an annual allowable cut of 234 MM bd. ft. was declared for the South Coast-Curry Sustained Yield Units.

Since then, BLM instituted new and improved procedures to guide the next allowable cut computations. The following briefly describes how the application of these new developments led to the decision.

Inventory - Two new inventory procedures were established. The Timber Production Capability Classification (TPCC) system was designed to delineate lands suitable for sustained yield production of timber. The Operations Inventory was developed to subdivide the lands capable of sustained production into units by silvicultural need, such as precommercial thinning and vegetative control. These two inventory efforts were completed in the District in 1977. They served as the base for the extensive forest inventory designed to provide overall growth and yield information for the allowable cut computation. This inventory was completed in 1978.

Multiple Use Planning - During the mid-1970s, the Coos Bay District launched an intensive effort in multiple use planning. To adequately support this effort, specialists in recreation, landscape architecture, archaeology, geology, soils, wildlife and fisheries were utilized. In 1980, the District produced a proposed land use plan that served as the framework for the current timber management plan.

Public Participation - In 1977, the District began a program to communicate with the public about the planning activities as they were developing. The program used a variety of approaches including:

- Four formal public meetings at appropriate times during the process.
- Seven mailings to approximately 600 concerned parties.

- Numerous meetings with various interest groups.
- Displays at Coos and Curry County Fairs.
- Direct news media contacts.
- Seven news releases.
- Two meetings and one field trip with the Coos Bay District Advisory Council.
- Numerous personal discussions between District and BLM Oregon State Office personnel and others.
- The publication and subsequent public review of both draft and final EISs.
- The publication and subsequent public review of a "Proposed Decision" document.

Environmental Assessment - In the settlement of a suit brought by the Natural Resources Defense Council (NRDC v. Kleppe, Civil No. 75-1861), BLM agreed to an accelerated schedule of EIS preparation on the series of timber management plans being developed in the 1980s. Before beginning this effort in Coos Bay, a public meeting was held (November 13, 1979) to discuss the proposed EIS; particularly the alternatives to be considered and important environmental factors to be analyzed. A draft EIS was prepared and released August 16, 1980. A significantly revised final EIS was released March 27, 1981.

Policy Evolution - As the planning process progressed, it became evident that policy clarification was necessary. BLM developed a draft policy statement based on the favored alternative generated through the land use planning process. This policy statement was submitted to the Interior Department's Solicitor in May 1981. The Solicitor examined the policy in light of pertinent legislation and issued a legal analysis essentially indicating that the policy was within the law provided minor revisions were made.

Because of the social and economic sensitivity of the local economy to changes in BLM timber production, a fine tuning of the original policy statement was undertaken. Initial refinement was provided by the Management Criteria issued in July 1982. Based on these criteria, a proposed decision was developed and described in the Draft Record of Decision issued September 23, 1982.

Public concerns played a significant role in fine tuning the policy. In addition, there was an October 1982 amendment to the Endangered Species Act requiring consideration of state listed species. The culmination of this process is the revised O&C Forest Resources Policy of March 1983, which obviates the need for the management criteria.

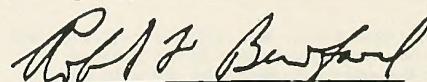
Bureau of Land Management (BLM) O&C Forest Resources Policy

This statement sets forth BLM policy for management of the Revested Oregon and California (O&C) Railroad and reconveyed Coos Bay Wagon Road Grant lands situated in the State of Oregon. It reflects the provisions of the Act of August 28, 1937 (O&C Act), and the effects of other relevant legislation and Executive Orders.

The BLM manages 2.1 million acres of O&C lands in western Oregon. The revenues and employment generated by timber sales, conversion of timber to wood products, and other marketable values derived from these lands significantly affect the State and local economies. It is further recognized that public use of these lands through consumptive and non-consumptive recreation, including sport hunting and sport and commercial harvest of salmon and steelhead produced in streams on the O&C lands, also contributes to the local and State economies. The primary objectives of the management program on the O&C lands are to manage for a high-level and sustained yield output of wood products needed to contribute to the economic stability of the local communities and industries, and to provide for other land uses as established in the O&C Act and other legislation.

The following principles will guide BLM in managing the forest resources on O&C lands:

1. Resource management plans or management framework plans as developed through the land-use planning process shall constitute the primary guides for carrying out legislative mandates and Bureau policies.
2. All O&C land administered by BLM in western Oregon will be classified according to the Timber Production Capability Classification. Lands classified as suitable for timber production shall be managed for timber and wood product production, to the extent possible, under the requirements of law. Lands classified as nonsuitable for timber production shall be allocated to the fullest extent possible to meet the needs for non-timber public land uses. Where nonsuitable lands cannot adequately provide for other uses set forth in the O&C Act and other applicable legislation and Executive Orders, suitable lands may be managed to meet the needs for the following:
 - a. Maintenance of water quality in accordance with Federal and State standards. Timber harvesting may be restricted or excluded only in areas where mitigating measures will not maintain water quality standards.
 - b. Protection of wetlands, including riparian zones. Timber harvesting may be restricted or excluded only in areas where mitigation measures will not be effective.
 - c. Conservation of specifically identified habitats for federally listed, threatened and endangered species. Timber harvesting may be restricted or excluded only in areas where mitigating measures will not be effective.
 - d. Research and development pertinent to the management of the land resources. Timber harvesting may be restricted or excluded only in areas where mitigating measures will not maintain resource values, and research is assessing these values: timber harvesting may be restricted or excluded pending the research conclusions.
 - e. Consideration of State goals and objectives concerning State-listed, threatened and endangered species in land-use planning and management. Restrictions may be utilized to achieve the habitat objectives developed from the BLM plans.
 - f. Consideration of habitat needs of native species. Restriction of timber harvest may be considered when these habitat needs cannot be met through established timber harvest practices.
 - g. Protection of developed high-value recreation areas, including the visual quality of significant scenic areas. Restriction or exclusion of timber harvest may be considered in the protection of established recreation facilities. Timber harvest may be restricted in the protection of scenic areas only where mitigating measures will not prove effective.
3. The allowable cut determination shall be based on nondeclining harvest level over time. Departures from the nondeclining harvest level may be permitted in either direction. Any increases shall not exceed the long-term sustained yield capacity of the land; decreases shall be economically and/or biologically justified and timed so as to minimize impacts on dependent industries and local economies.



Director, Bureau of Land Management

The Decision

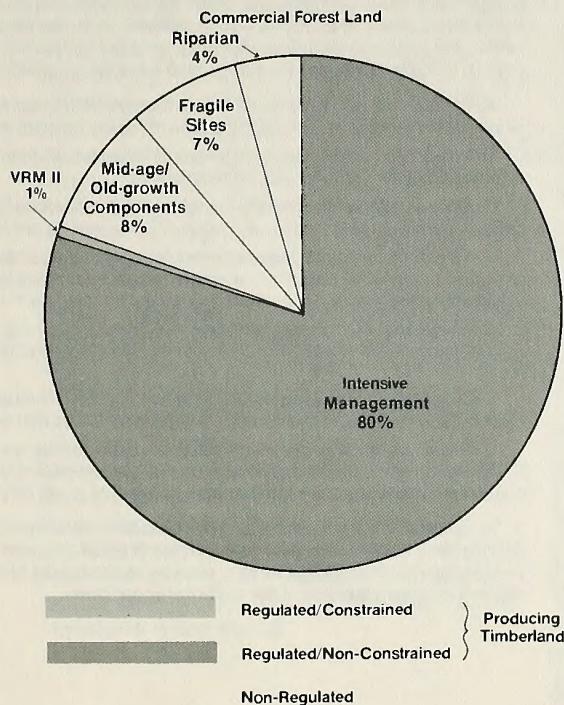
Major Features

The new timber management plan yields an annual allowable harvest of 254 MM bd. ft.¹. The decision is similar to EIS Alternative 6 "Proposed Action with Lower Average Minimum Harvest Size" with two exceptions.

First, the decision eliminates the land-use allocation for Class III Visual Resource Management land (VRM III - described in the appendix). In EIS Alternative 6, these lands were to be managed the same as the intensive timber lands, but with an 80-year minimum harvest age. Analysis of public comments revealed little support for this allocation.

Second, the 11,000-acre replacement component of the original habitat diversity

allocation (36,500 acres on 350-year rotation) will be returned to full intensive timber management. The uncertainty



surrounding the ultimate need for, and importance of, the old-growth component is such that it was judged inappropriate to commit to long-term management with replacement areas at this time. Instead, the 25,300-acre mid-age and old-growth components of the original habitat diversity system will be withdrawn from timber production while research is underway.

The following is a description of the decision arranged by major land-use categories. Detailed operational procedures for logging systems, road construction, etc. are contained in the land-use plan (the MFP) and will not be described here. Also, land-use decisions not directly related to timber management, such as the management of coastal lands, will not be considered in this document.

A detailed discussion of the elements of this pie chart may be found in Appendix A.

¹ All allowable harvest levels were computed in cubic feet and this will be the unit used to maintain control: depletion, growth, etc. Because the Scribner board foot is the most commonly understood unit of measure, we have converted all cubic foot measurements to Scribner board feet (16-foot logs) in this document.

Intensive Timber Management - 243,300 acres, or about 80 percent of the CFL will be managed primarily for the production of timber. The regulated annual harvest from this portion of the forest will be about 252 MM bd. ft. These lands also will provide a range of habitat types for adaptable wildlife species and those species which prefer younger seral stages. Opportunities to mitigate for other, less adaptable species include forage seeding, road closures and snag/green tree management. Design features and mitigative techniques also will be employed to help insure the protection of the basic soil resource and water quality. In most instances this will involve the selection of the "best management practices" to fit individual situations. The District MFP contains guides for the use of such tools. Table 2 shows timber management practices to be applied to these lands.

Table 2 - Timber Management Practices

| Practice | Approximate Annual Acreage (First Decade) |
|-------------------------------|---|
| Harvest | |
| clearcut | 4,000 |
| partial cut | 250 |
| Site Preparation | |
| broadcast burning | 4,900 |
| herbicide | 850 |
| brush and hardwood conversion | 550 |
| Planting | |
| (genetic stock) | 6,500 |
| Animal Damage Control | |
| (800) | 950 |
| Plantation Release | |
| 5,100 | |
| Precommercial Thinning | |
| 3,350 | |
| Fertilization | |
| | 4,500 |

Credit for applying these practices has been taken in determining the harvest level.

The rotation for the forest will be 80 years. However, it will be necessary to harvest 40-year-old timber beginning in about 30 years and continuing for 50 years as a part of the process of converting to a regulated forest wherein the maximum sustainable timber production is possible. A 40-year-old tree will average 13 inches in diameter.

Visual Resource Management, Class II - 4,300 acres, or about 1 percent of the CFL, will be managed so that activities such as harvesting and road construction will not be visually evident. Most of this land lies immediately adjacent to major travel routes. The regulated annual harvest from this portion of the forest will be about 2 MM bd. ft. Timber management practices will be limited to those necessary to harvest and reforest approximately 30 acres each year. Clear cut size and shape will be limited to meet the visual objective. A timber harvest rotation of 160 years, resulting in a slower harvest rate, also will be used.

Mid-Age and Old-Growth Components of Habitat - 25,300 acres, or 8 percent of the CFL, will be maintained during the period of this plan to provide the mid-age and old-growth components of a fully diverse habitat spectrum. Large blocks of timber in these age classes, linked by smaller stepping stone blocks, will form a spatial distribution of BLM-administered lands similar to the system described in Alternative 6 of the EIS. The District currently has approximately 105,000 acres of the mid-age and old-growth seral stages, of which 65,000 acres will remain uncut during the decade.

Habitat for native populations of wildlife and plants, incorporating appropriate seed zone/elevational units, will be provided for the decade. Research will continue, and opportunities will be provided to gain information on the complex interactions between plants and animals.

Data generated by this research will aid decision makers in the next planning cycle to determine whether to continue this exclusion, or return the acreage to full intensive timber management. The opportunity would remain for identifying replacement acres during the next planning cycle should that be judged necessary.

Fragile Sites (TPCC) - 22,100 acres, 7 percent of the CFL, were judged incapable of supporting sustained yield timber management under current technology and have been removed from planned timber harvest. Management of these acres will be keyed to maintaining or enhancing watershed, wildlife habitat and other renewable resources. Harvest in these areas may occur should technology develop, or in response to natural disasters.

These acres are primarily steep and unstable, and incorporate a variety of vegetative types including approximately 15,000 acres of scattered patches of the District's mid-age and old-growth timber. They provide habitat for native wildlife species and are utilized where possible as additional elements of the mid-age/old-growth component system.



Table 3 - Funding Comparison
(\$x1000)

| Major Program Area | 1983 Base Level | Full Implementation |
|--|--------------------|------------------------|
| Transportation Systems ¹ | 1,719 | 1,895 |
| Timber Management ² (Including land survey) | 5,164 | 5,891 |
| Fire Management ² | 185 | 800 |
| Fisheries & Wildlife | 108 | 250 ³ |
| Soil, Air, Water | 110 | 110 |
| Total ⁴ | 7,286 | 8,946 |
| Allowable Harvest Levels (MM bd. ft.) | 238 | 254 |

¹ Includes access acquisition and maintenance; does not include funding for major construction projects or aggregate production.

² Program areas directly related to reforestation and growth.

³ Includes funding for the development of habitat management plans for mid-age and old-growth components.

⁴ Includes monitoring, but not research, which is funded on a statewide basis.

Riparian Areas - 10,800 acres, 4 percent of the CFL, will be managed specifically for stream protection, maintenance of water quality and habitat for wildlife; including anadromous fish, elk, cavity nesters and numerous other native species. These lands have been removed from regulated harvest. As in the case of Fragile Sites, timber harvest may occur on these lands but their management will be keyed to maintaining other renewable resource values. Experience on the District has demonstrated that the full range of resource values cannot be protected when regular harvest of commercial timber is carried out on riparian areas.

Cost of Implementation

Table 3 lists the approximate average annual cost of implementing the decision by major program area for the first decade. Only timber management and closely related programs are shown.

The average annual cost to implement the proposed decision is approximately \$8.9 million.

Timber and fire management programs are directly related to the growth projections made in determining the allowable harvest level of 252 MM bd. ft. At the FY 83 funding level all intensive management programs would not be implemented. In particular, this probably would affect fertilization and stand conversion, and approximately 65 percent of the precommercial thinning program. The estimated effect on the allowable cut of this shortfall would be about 16 MM bd. ft.

Monitoring and Research

Table 4 presents the monitoring activity associated with the timber management plan. Such monitoring has been designed to help insure compliance with the goals and mitigation measures developed through land-use and timber management planning. Information gained from this effort also will be used to develop an improved base from which to build future plans. Much of the monitoring will be accomplished through normal operating procedures, such as contract administration. This type of monitoring would occur regardless of the alternative chosen. In other instances systems have been developed to measure the biological and physical impacts of plan implementation. For example, the "Growth Response from Fertilization and Thinning" is designed to measure actual response in relation to the projected response used in the allowable harvest computation.

BLM is a cooperator with the Pacific Northwest Forest and Range Experiment Station and others in a research and development project studying the Douglas-fir old-growth ecosystem. Specific components of this study are being developed to evaluate the role of seral stage distribution in the maintenance of long-term timber production as well as the relationship of certain species of wildlife to old-growth. The overall budget for this five-year effort is \$6.5 million. BLM's planned total contribution is \$900,000. In addition BLM is carrying out cooperative research with the Forest Service to determine the importance of down logs in the old-growth ecosystem.

Table 4 - District Monitoring Plan

| Monitoring Element | Method | Frequency ¹ | Characteristics Evaluated ¹ |
|---|-----------------------------|---|--|
| Timber Management | | | |
| Periodic Forest Inventory | Permanent Plot Measurements | Decadal | Ht. growth; Dia. growth; stand age; vol. growth/tree; vol. growth/acre |
| Growth Response from Fertilization and Thinning | Permanent Plot Measurements | 5-10 yr. intervals | Ht. growth; dia. growth; stand age; vol. growth/tree; vol. growth/acre |
| Tree Planting | Contract Administration | Daily during planting season Oct.-April | No. trees/acre; distribution of trees; root forms |
| Cone Collection | Contract Administration | Daily from Aug. 24-Oct. 1 | Stand and/or tree selection; location designation; volume obtained; seed count |
| Chemical Site Preparation | Contract Administration | Daily during project | Chemical mix; spray distribution; stream monitoring; unit signing; collecting application data |
| Release Spray | Contract Administration | Daily during project | Chemical mix; spray distribution; stream monitoring; unit signing; collecting application data |
| Release Spray Evaluation | Vegetative Survey | Annually, and/or 5, 10 & 15 years | Quantity effect of treatment on competition and desired trees; treatment effectiveness |
| Pre-commercial Thinning | Contract Administration | Daily during project | Spacing; tree selection; work quality |
| Fertilization | Contract Administration | Daily during project | Distribution of fertilizer; application monitoring |
| Seedling Tubing | Contract Administration | Daily during project | Number & distribution of tubes; tube and tree positioning |
| Mountain Beaver Trapping | Contract Administration | Weekly during project | Number trapped; unit information |
| Hand Slashing | Contract Administration | Daily during project | Diameter & height limits |
| Stand Conversion | Contract Administration | Daily during project | Diameter & height limits |
| Reforestation Surveys | Stocking Surveys | Annually and/or 5, 10 & 15 years | No. of trees/acre; tree distribution; vegetation competition, survival by seedling type; height growth |
| Tree Improvements/Progeny Test Sites | Test Plot Measurements | Annually, and/or 5, 10 & 15 years | Height growth; comparative height growth per parent |
| Tree Improvement/Field Plots | Test Plot Measurements | Annually, and/or 5, 10 & 15 years | Height growth; comparative height growth per parent |
| Timber Sales | Contract Administration | Weekly on each contract | Timber cutting & payments; logging system requirements; road construction, use & maintenance; environmental compliance |
| Air Management | | | |
| Air Quality | Ocular Observations | Bi-weekly | Degrees of clarity |

| | | | |
|--|---|---|---|
| Watershed Management | | | |
| Water Quality | Monitoring of Non-point Source Pollution & Analysis of Water Samples; Contract Administration | Monthly and/or after major storms | Stream flow profiles; temperature profiles; dissolved oxygen levels; acidity; stream load |
| Wildlife Management | | | |
| Stream Habitat | Stream Survey | Periodically-every major stream once during 10-yr. period | Channel structure; riparian structure; bedload composition & configuration; fish and aquatic insect populations |
| Big Game Habitat and Population | Habitat Inventory & Spotlight Counts | Annually | Response to habitat manipulation |
| Bald Eagle Habitat and Population | Habitat Inventory & Population Surveys | Bi-annually | Reproductive success; response to timber management practices |
| Spotted Owl Habitat and Population | Habitat Inventory & Population Surveys | Annually | Reproductive success; response to timber management practices |
| Snag Management | Selective Sampling of Harvest Units | Annually | Quantity & quality of trees left for wildlife |
| Recreation - Visual & Cultural | | | |
| Recreation Utilization | Random Sampling of District-wide Recreation Use | Periodically-two or three times during the decade | Number of visitors; areas of intensive utilization |
| Visual Resource Layout Compliance | Comparison of Harvested Units with Visual Simulations | Annually | Effectiveness of visual mitigation measures; compliance with EA stipulations |
| Cultural Site Protection | Examination of Selected Sites Before and After Timber Harvest/Road Construction | Annually | Site integrity |
| T & E Plants | | | |
| Rare & Endangered Plant Habitat and Population | Habitat Inventory & Population Surveys in Selected Areas | Annually | Compliance with protective measures; population response to habitat manipulation |
| Overall Environment | | | |
| Environmental Assessment Compliance | Inspection of Selected Projects | Periodically throughout the year | Quality of environment after project, i.e., harvest, road construction, herbicide spray, etc. |

¹Frequency and characteristics evaluated may vary depending upon the severity of the environmental impact, specific contract requirements, and administrative priorities.

Decision Rationale

In arriving at the final decision, four basic criteria were used to evaluate each alternative; economics, environment, public opinion and consistency with state and local plans. The rationale for the decision will be presented by these criteria.

Economics

There is clear evidence of the need for, and importance of, softwood timber supplies on national, state and local levels. The Oregon State Board of Forestry, in its publication "Forestry Program for Oregon" (FPFO), points out that "The significance of Oregon's forests to our state and local economies is tremendous. Oregon contains 23 percent of the nation's standing softwood timber and produces 20 percent of the nation's softwood harvest. More than one-third of Oregon's economy is directly or indirectly dependent on timber industries. More than 75,500 workers, 8.3 percent of Oregon's industrial labor force, are employed directly in the lumber and wood products sector."¹

This relationship is even more dramatic in the communities within the South Coast-Curry Sustained Yield Units where more than one-half of all employment is directly or indirectly dependent upon the timber industry.

¹ "Forestry Program for Oregon," Oregon State Board of Forestry, April 1977.

Furthermore, the raw material needed to supply this critical industry in southwest Oregon is projected to decline by as much as 35 percent after 1995 under present management policies.²

The Oregon State Department of Forestry (OSDF) has analyzed all major forest ownerships to determine what level of production would minimize timber supply problems in each timbershed during the decade of the 1980s. The contribution called for from BLM's Coos Bay District is 39.7 MM cubic feet (251 MM bd. ft. Scribner 16-foot equivalent) annually, an increase of approximately 7 percent over the current annual harvest level.

Fisheries and tourism are also key elements in the economy of southwest Oregon and the way in which BLM manages public resources can have a marked influence on these industries.

The decision is responsive to economic needs in the following ways:

- It increases the allowable harvest 20 MM bd. ft. annually over the current level.
- It provides support for 3,970 jobs in the local economy; an increase of 343 jobs.

- It provides support for \$54.5 million annually in personal income; an increase of \$7.7 million annually.
- It provides approximately \$70.9 million (at \$279 per thousand) in annual timber sale receipts; an increase of \$10.1 million. Half of these receipts would be returned to the O&C counties.
- It provides a high level of timber output, meeting the objectives established by the Oregon State Board of Forestry during the critical period of the next three decades.
- It focuses production toward the critical near-term period through the use of a 13 inch minimum harvest size. The trade-off is slightly (3 percent) less total production over the next two centuries, and a six-decade delay in reaching regulation.
- It protects economic stability by providing future options for maintaining long-term timber production through the mid-age and old-growth component system.
- It provides strong support for the fishing industry and contributes to a slight increase in fisheries-related jobs.

² "Timber for Oregon's Tomorrow;" John H. Beuter, K. Norman Johnson, H. Lynn Scheurman; Forest Research Laboratory, School of Forestry, Oregon State University; Research Bulletin 19. January 1976.

Environment

Legal guidelines from the Council on Environmental Quality require BLM to identify the environmentally preferable alternative in this planning process. The criteria used to judge environmental preferability among alternatives are the goals established in Title I, Section 101 of the National Environmental Policy Act (NEPA) of 1969, as follows:

1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
2. Assure for all Americans safe, healthful, productive and esthetically and culturally pleasing surroundings.

3. Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences.
4. Preserve important historic, cultural and natural aspects of our national heritage; and maintain, wherever possible, an environment which supports diversity and variety of individual choice.
5. Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities.

6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

District management personnel actively involved in the planning process subjectively judged relative conformance of each alternative, and the proposed decision, with the NEPA goals. The rating scale ranged from 10, for full conformance, down to 1 for non-conformance. Appendix B shows the results of this analysis. Summary observations are as follows:

- The final EIS Preferred Alternative ("F") ranked first in environmental preferability with an overall rating of 8.1; a relatively high level of conformance.
- While NEPA emphasizes the biological and physical components of the environment, it also deals with the socioeconomic components (Goals No. 5 and 6). This appears to be the reason for the low ranking of alternatives with primary emphasis on the biological and physical aspects (Alternatives "I" and "J").
- The relatively poor ranking of the highest and lowest timber production alternatives ("A" and "J") was the result of lack of balance (Goal No. 5).

Despite the high subjective rating of the final EIS Proposed Action, it was not selected for implementation because of the economic and public opinion factors discussed elsewhere in this document.

The environmental impacts associated with the decision are compared to those of the EIS Proposed Action in Table 5.

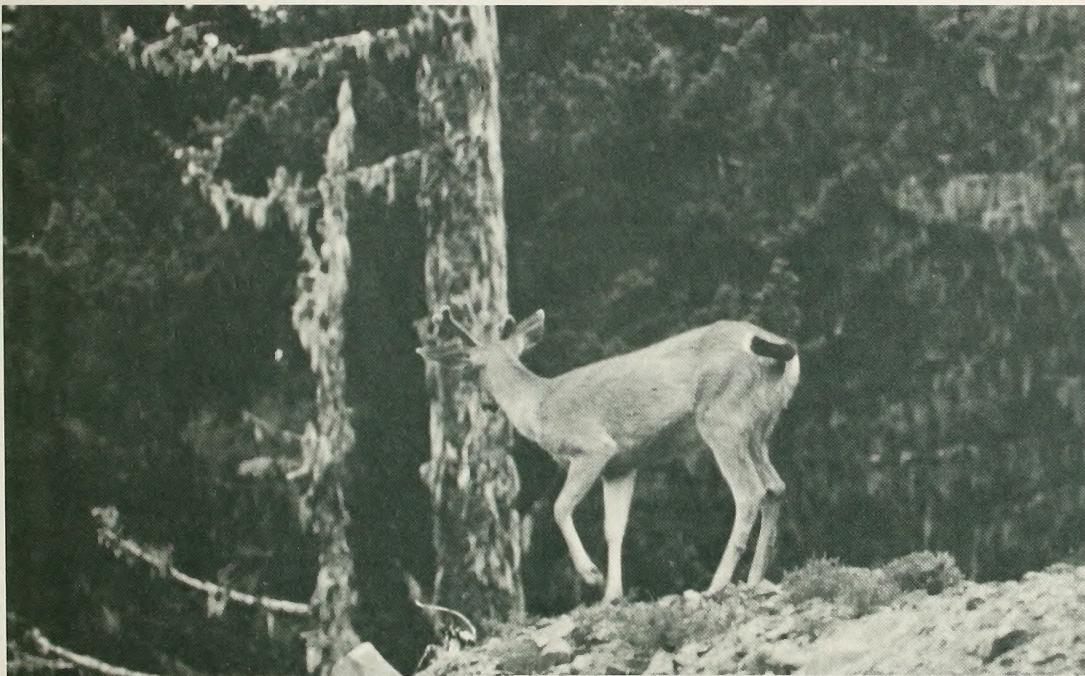


Table 5 - Environmental Comparison

| Element | Final EIS Proposed Action | Decision |
|--|--|---|
| Habitat Diversity | Provides reasonable probability of maintaining viable populations of old-growth related species by managing 36,000 acres on a 350-year rotation with corridor spatial distribution. Of the 36,000 acres, approximately 25,000 are mid-age and old-growth timber, and 11,000 acres are replacement acres. | Provides reasonable probability of maintaining viable populations of old-growth related species by removing the 25,000 acres of mid-age and old-growth identified in the final EIS Proposed Action from all planned timber harvest. Addressing the possible need for replacement acres is postponed until the next planning cycle. |
| Spotted Owls | Provides habitat for 16 of the existing 25 pairs based on the original recommendations of the Oregon Endangered Species Task Force. | Provides habitat for 16 of the existing 25 pairs based on the original recommendations of the Oregon Endangered Species Task Force. |
| Elk | Decline of population levels over next 100 years. (See discussion in box) | Slightly accelerates the initial decline, but expected to reach the same level over next 100 years. (See discussion in box) |
| Primary Excavators | Would probably maintain viable populations of woodpeckers at 50-60 percent of optimum. | Would probably maintain viable populations above the threshold level (40 percent of optimum). |
| Anadromous Fish Habitat | Maintains improving trend. | Maintains improving trend. |
| Soil Erosion (Past decade baseline is 409,000 tons per decade) | 198,000 tons per decade. | 202,000 tons per decade. |
| Sediment Yield (Past decade baseline is 3,500 tons per decade) | 3,000 tons per decade. | 3,300 tons per decade. |
| Visual Resource Management (VRM II) | Meets objectives on 4,100 acres classed as VRM II visual areas. | Meets objectives on 4,300 acres classed as VRM II visual areas. |
| Visual Resource Management (VRM III) | Meets objectives on 20,000 acres classed as VRM III visual areas. | Does not have any land classed as VRM III visual areas. |
| Long-term Timber Productivity | Maintains a basic framework of old-growth stands oriented by seed zone and elevation. | Maintains a basic framework of old-growth stands oriented by seed zone and elevation. |
| Minimum Harvest Age | Utilizes a MHA of 50 years with a resultant average size of 16 inches. Reaches maximum sustained yield capacity of approximately 370 MM bd. ft. in about 80 years. Provides moderate flexibility in future planning cycles. | Utilizes a MHA of 40 years with a resultant average size of 13 inches. Reaches maximum sustained yield capacity of approximately 370 MM bd. ft. in about 140 years. Total production of wood over next 300 years is expected to be approximately 3 percent less than final EIS Proposed Action. Planned decadal cut is approximately 12 percent greater than final EIS Proposed Action. Limits flexibility in future planning cycles. |

Elk Populations

The projected impacts on elk populations have been controversial and generally not made clear as evident by public responses to the EIS and proposed decision. It is emphasized that all the alternatives considered in the South Coast-Curry EIS projected similar long-term declines in total elk populations, except one. Alternative 9 could maintain or enhance elk populations, but the associated 105 MM bd. ft. annual timber harvest reduction from the current level represents too great an opportunity cost to the timber industry and local economy. Therefore, since the predicted elk decline does not vary significantly among the other alternatives the choice is not constrained by the expected impacts on elk.

The principal factor influencing the elk decline is old-growth conversion in association with increased commercial thinning and decreased clear cutting (see pages 3-27 and 3-28 final EIS). Additional factors include improved road access and timber management practices on adjacent lands. The combination of all these factors is expected to cause a gradual decline to 50 to 70 percent of current populations over 50 years, and 20 to 30 percent of current populations over 100 years.

Reduction of old-growth habitat will be the primary factor affecting elk declines during the first 25 years. After that, the relative amounts of commercial thinning and clear cutting are the primary factors. Increased commercial thinning reduces thermal cover, and less clearcutting reduces available forage. These factors are expected to produce the greatest rate of decline in the first three decades. The decline would be slight during decades three through six, followed by an increased rate of decline during decades seven through ten when commercial thinning increases.

The reason that BLM management, on its small percentage of the total area of the south coast, can have such an important effect on total elk numbers relates to the fact that elk are not uniformly distributed throughout the planning unit. Historically, the key area for elk in southwest Oregon is the Tioga Wildlife Management Unit, where about 75 percent of the region's bull elk harvest occurs. Much of the key elk habitat in this unit is BLM-managed land, the rest is private and state-managed.

Public Input Analysis

Public comment is an important part of BLM's decision making process. At various stages, the public has been presented with the current state of planning and allowed a time to comment. Almost 2,500 written comments were received during this planning process.

In considering this input, a simple vote-counting process was not used. Input ranged from post cards with limited content to documents reflecting in-depth, scientific analysis. However, all were recognized to be valid expressions of public interest and concern. Each written comment was recorded and coded for statistical sorting and carefully read for specific comments and major issues addressed.

The input to the draft and final EISs was discussed in the proposed decision document. This final decision document only discusses comments received specifically on the proposed decision, and a few of the correlations to earlier comments. Some observations on the comments addressing the proposed decision are:

- Of the 103 comments received; 54 were from within the boundaries of the District, 46 were from elsewhere in Oregon, and three were from outside Oregon.
- 100 of the comments came as letters.
- Only two of the letters had more than one signature.
- 49 of the comments were from individuals, 16 from citizen groups, 24 from industry, 11 from government agencies.

Economic concerns were most frequently addressed in comments on the draft and final EISs. This changed to a broader spectrum of concerns in comments to the proposed decision with its significantly higher allowable harvest level.

An analysis of the comments received shows that nine major issues were raised. These are:

1. The conformance of the decisionmaking process with the National Environmental Policy Act.
2. The consistency of the proposed decision with the existing Sikes Act agreement.
3. Necessity for and the adequacy of the Seral Stage Distribution system.
4. The heavy dependence on increased funding to support the allowable harvest level.
5. The legality of the proposed land use allocations on the Public Domain under the Federal Land Policy and Management Act of 1976.
6. Consistency with the Coastal Zone Management Act of 1972.
7. Consistency with the draft BLM wildlife program policy.
8. Accuracy of wildlife-related impact projections in the proposed decision.
9. Reasonableness of the planned intensity of timber management.

Some of these issues are no longer pertinent due to the changes in the decision. They are, however, all felt to be important enough to necessitate a response. A list of some of the summary comments received, and responses to the nine major issues identified can be found in the appendix.

Among the primary public opinion factors influencing the decision were:

- Broad support for the land-use concepts derived through the planning process.
- The strong expression of concern for maintaining or increasing the current allowable harvest level.
- The strong expression of concern for non-timber values, especially wildlife.

The divergent, strongly-held viewpoints from the public came, in many cases, in well rationalized and articulate analyses. This prompted a careful search for the proper balance between increased timber production and the maintenance of certain non-timber values. We believe this final decision is the best balance possible within technical, biological and legal limitations.

Consistency with State and County Planning

This section addresses the relationship of the proposed decision with various state and county plans. Municipal plans will not be addressed since no significant interaction is anticipated. State and county plans are broad in nature, allowing for a considerable degree of interpretation when judging consistency.

Forestry Program for Oregon (FPFO)

Oregon State Board of Forestry

Basic Objective - To maintain the maximum potential CFL base consistent with other resource uses while assuring environmental quality.



Consistency - The decision retains the maximum potential for CFLs. No CFL has been designated for an irreversible change of use such as commercial or industrial. BLM considers the mix of uses defined in the decision to be consistent with "other resource uses" and "environmental quality" portions of the goal. Congressional Acts, Executive Orders and "Oregon Best Management Practices under the Clean Water Act" mandate guidelines for certain lands. Throughout the planning, these guidelines have served to help define the land-use mix.

Basic Objective - To identify and implement the levels of intensive forest management required to achieve maximum growth and harvest.

Consistency - A full range of intensive timber management practices will be implemented on approximately 80 percent of CFL to optimize timber production.

Basic Objective - To rehabilitate CFL that presently is not stocked with a commercial timber species.

Consistency - Conversion of hardwood stands and brushfields is planned.

Basic Objective - To maintain community stability by remaining flexible for increases in future harvest levels that would offset projected shortages.

Consistency - The office of the State Forester in a letter dated November 7, 1980, recommended a harvest for the South Coast Sustained Yield Unit (SCSYU) which would: "...best meet state goals through; maintenance of the CFL base; high productivity; assuring environmental quality; and flexibility to increase harvests to fulfill local, state and national timber

supply objectives." The annual harvest level recommended by the state is 39.7 MMCF (million cubic feet) for the period 1980 to 1990. The decision provides for an annual harvest of approximately 40.1 MMCF.

Oregon Wildlife Policy/Goals

Oregon Revised Statute 496.012 establishes policy and goals for the management of the state's wildlife. The following is a consistency determination for those goals that relate to the decision.

Goal - To maintain all species of wildlife at optimum levels and prevent the serious depletion of any indigenous species.

Consistency - The decision provides for the maintenance of habitat for indigenous wildlife species. However, the intention is to provide at least that habitat necessary for viable population levels rather than optimum levels. The exception to this is in anadromous fisheries where an active program of rehabilitation and enhancement is under way.

Goal - To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife.

Consistency - The decision gives consideration to wildlife and fish habitat. While variations in populations of individual species are certain to occur over time, the loss of a species within the District should be prevented.

Goal - To develop and maintain public access to the lands and waters of the state and the wildlife resources thereon.

Consistency - BLM, in the District, has built and maintained a network of roads that provides the public access to a major portion of the south coast area. This program is expected to continue under the new plan.

LCDC Statewide Goals

Only those Land Conservation and Development Commission (LCDC) goals which have a direct relationship with the proposed decision are considered in the following rationale. LCDC goals that are not considered generally applicable include: 3, Agricultural lands; 10, Housing; 11, Public facilities and services; 12, Transportation; 14, Urbanization; 15, Willamette Greenway; 17, Coastal shorelands; 18, Beaches and dunes.

Goal 1 - To insure citizen involvement in all phases of the planning process.

Consistency - The BLM planning process provides for public input at every stage, from the initial inventory to critique of the final decision.

Goal 2 - To establish a land-use process and policy framework as a basis for all decisions and actions.

Consistency - The O&C Act and the Federal Land Policy and Management Act (FLPMA) of 1976, provide a policy framework for all decisions and actions. The decision has been developed in accord with these acts.

Goal 4 - To conserve forest lands for forest uses.

Consistency - The decision provides for retention of forest lands for forest uses. The productive capacity of the land is not exceeded, and all other uses are compatible with forest uses in this goal.

Goal 5 - To conserve open space and protect natural and scenic resources.

Consistency - The decision conserves open space, as no developments (housing, urbanization, etc.) are included. Protection is provided for fish, native wildlife, watershed values and high value scenic resources.

Goal 6 - To maintain and improve the quality of the air, water and land resources.

Consistency - The decision provides for enhancing land resources and attaining minimum federal and state water quality standards. Slash burning under the proposed decision will increase air pollutant levels. However, all burning will be done in concert with the State Smoke Management Plan.

Goal 7 - To protect life and property from natural disasters and hazards.

Consistency - BLM projects are designed to minimize hazards from flooding, landslides and debris slides.

Goal 8 - To satisfy the recreational needs of the citizens of the state and visitors.

Consistency - The decision provides for retaining existing recreation areas and modest expansion. It also provides for enhancing scenic attractions, and maintaining fish habitat to help meet expected recreational demands.

Goal 9 - To diversify and improve the economy of the state.

Consistency - The decision provides for increased timber production with the potential for positive effects on the economy. It will provide a base for the recreational and commercial fishing industries by maintaining and increasing habitat for anadromous fish. In addition, modest support for tourism will result from maintaining scenic and recreational attractions.

Goal 13 - To conserve energy.

Consistency - The conservation and efficient use of energy sources are objectives in BLM activities. The use of logging residue for firewood will be encouraged.

Goal 16 - To recognize and protect estuarine resources.

Consistency - The decision recognizes and protects estuarine resources by maintaining water quality and striving to reduce sediment from operations.

Goal 19 - To conserve the long-term values, benefits and natural resources of the near shore ocean and continental shelf.

Consistency - The decision affords protection and enhancement for anadromous fisheries.

Oregon Coastal Zone Management Program

The foundation for this program is the 1973 Oregon Land-Use Act, ORS 197, requiring the state to develop statewide planning goals. The goals cited in the foregoing section form the basis for this program, and thus, consistency with these goals represents consistency with the Oregon Coastal Zone Management Program.

County Comprehensive Plans Coos, Curry and Douglas Counties

Goals and objectives in the three counties are primarily based on FPFO and LCDC goals and objectives and, therefore, are very similar. For this reason, the following basic objectives are considered to apply collectively to the three counties.

Basic Objective - Maintain Commercial Forest Lands (CFLs) for producing wood fiber and other uses.

Consistency - The CFL base will be maintained as described in the FPFO consistency section, although acreages will vary from county to county. The degree of other uses is not defined and could vary considerably among counties.

Basic Objective - Obtain maximum productivity from all CFLs through forest management techniques.

Consistency - Full intensive forest management will be practiced on approximately 80 percent of the CFL base.

Basic Objective - Protecting water quality, fish and wildlife habitat, scenic and recreational values.

Consistency - The decision provides for protecting fish habitat, scenic values, native wildlife habitat and recreational facilities.

Basic Objective - To provide for diversifying industry (economic diversification).

Consistency - The proposed decision will provide some indirect encouragement for economic diversification. Commercial and recreational fisheries will benefit from protecting and enhancing anadromous fish habitat. The tourist industry may benefit as a result of the protection of scenic and recreational resources, however those recreational activities involving elk may decline in the long run.

Basic Objective - Expansion of existing industries.

Consistency - The decision could contribute to short-term expansion of existing industries, primarily the wood-products industry. Increasing the annual sales above that of the preceding 10 years could contribute to short-term expansion. On the other hand, if the BLM annual harvest remains more-or-less static throughout coming decades, the contribution to long-term expansion of the wood-products industry would be negligible.

Summary

Given the foregoing analysis, the decision represents the best environmental balance that can be achieved within the context of law and policy. It is consistent with the plans of other federal agencies, and of state and local governments to the extent possible. It strikes a balance between the divergent public viewpoints expressed. The opportunity cost of achieving a significantly higher level of environmental preferability is determined to be excessive in light of identified social and economic needs.

Appendix



Appendix A - Analysis of Alternatives

This portion of the document will discuss the biological-physical and economic relationships of each alternative presented in the final EIS and the proposed decision. For biological-physical relationships, each alternative is examined in terms of its impact on other resource values judged to be of primary importance to the proposed decision: wildlife, watershed and visual resources. Some resource values or activities did not significantly affect the timber management plan: minerals, grazing, agriculture and land use for utilities and communication. Others have potential for effect but can be handled without substantial impact on timber production: cultural resources, endangered plants, air quality and recreation. These resources and activities will not be addressed in this analysis.

Resource Management Goals

Timber - The goals that have guided formulation of the Timber Management Plan were developed in the land-use

planning process. The timber management goal is:

Produce and market the maximum volume of softwood timber consistent with the policy of sustained yield and in a manner that preserves the productivity of the forest and provides for an equitable balance of other authorized forest uses.

The issue that clearly emerges in considering the timber management goal is determining what constitutes an equitable balance between timber production and other authorized forest uses.

The following are overlapping goals for resource values developed in the planning process and are of major concern:

Wildlife - Develop and maintain habitat diversity to provide for viable populations of all indigenous species of fish and wildlife. Such a goal requires managing all naturally occurring habitat types to avoid their total loss or isolation. This should prevent the functional loss or genetic isolation of species dependent upon a habitat type. Intensive timber management can be compatible with a portion of this

goal by providing younger habitat stages. With some minor modifications, it also can supply some of the special habitat needs such as snags, down logs and bald eagle habitat.

But, to completely meet the wildlife goal, it would be necessary to have blocks of old-growth timber arranged across the District. These blocks would need to be relatively close (1 - 1.5 miles) to one another to avoid genetic isolation. Riparian areas also are important to both the terrestrial wildlife and fisheries resources. Such areas can provide for the protection of water quality and serve as a food/energy source if maintained in a mature to old-growth state.

Watershed - Maintain or enhance basic soil productivity and water quality. The two major water quality problems of south coast streams are excessive sedimentation during periods of high flow and high temperatures during periods of low flow. Timber management practices are selected to minimize erosion and sedimentation under all alternatives. However, the level of protection given fragile areas and riparian zones is of concern.

Visual Resources - Protect and enhance scenic values consistent with the inherent scenic quality and sensitivity of an area. The land-use planning process identified four classes of scenic quality in the District. It was determined that the visual resource management objectives for the highest (Class I) and lowest (Class IV) classes did not conflict significantly with intensive timber management. There is little Class I land in the District and most of it is non-forest in nature. Intensive timber management is generally compatible with the Class IV designation.

Class II lands would be managed so that management activities would not be seen from critical viewpoints and travel routes. This objective usually would limit harvesting to partial cutting or small clear cuts that do not expose bare ground or skyline balds. It is estimated that a timber harvest rotation of 160 years would be needed to meet this objective.

Class III lands would be managed so that all management activities would remain visually subordinate to the characteristic landscape. In most cases, this would limit clear cut size, location and form. It is judged that a timber harvest rotation of about 80 years would be needed to meet this objective.

Guide to Discussion of Alternatives

The amount of timber produced from the South Coast-Curry Sustained Yield Units has important economic implications for southwest Oregon. To establish a base from which to judge each alternative, the following economic indicators will be used:

1. Total Work/Years - This figure represents both the annual direct and indirect employment supported by the timber output level. It should only be considered valid for the short run (10 years) in that it does not reflect a projected long range improvement in productivity per worker.

2. Percent of Total Employment Attributable to Proposed Harvest - This figure will provide some perspective on the overall effect of change in the harvest level on employment. Since impacts are expected to vary by county, the figure will be presented by county and for the four affected counties combined.

3. Total Earnings - This figure represents the annual direct and indirect earnings supported by the timber output level.

4. Timber Sales Receipts - The level of receipts is important to local government since substantial portions of their funding are derived from this source. During the past several years, the District has experienced timber bid prices ranging from \$327/M bd. ft. in 1980, to \$128/M bd. ft. in the current market. To compare alternatives in this document, the 1981 average bid price of \$279/M bd. ft. will be used. This figure is felt to be representative of a reasonable price during normal market conditions. In fact, normalized price for the last 15 years, incorporating inflation, is estimated at \$244/M bd. ft. The relative difference in receipts remains constant regardless of bid price used in computations.

5. Opportunity Cost - These figures will be the annual employment, earning and receipts estimated to be foregone by moving from a higher timber production alternative to a lower one.

In the following summary there will be a pie-chart to illustrate the allocation of land uses for each alternative. The whole pie will be equal to the CFL, which can be used for growing timber at the nationally accepted rate of at least 20 cubic feet per acre per year. It will not include roads, bodies of water or other non-productive areas.

The shaded portion of each pie will represent Regulated area; that land included in the timber production base used to compute the annual harvest. This is the producing timberland. Of the shaded portion, the more darkly shaded area represents land where timber production is

the highest priority and is not significantly reduced by other land uses. It will be labeled Regulated/Non-Constrained.

The more lightly shaded portion of the pie also represents productive timberland, but it is land where timber production is constrained by other uses. Here, timber production may not be the primary use, but the timber still is harvested regularly. This will be labeled Regulated/Constrained.

The unshaded part of the pie, present in some of the alternatives, represents land not included in the timber production base used to compute the annual harvest level. Timber still may be harvested from these areas, but only when doing so enhances other resource values such as water quality, fish, wildlife or future forest productivity. Small amounts of harvested timber from these areas will be added to the computed allowable cut level.

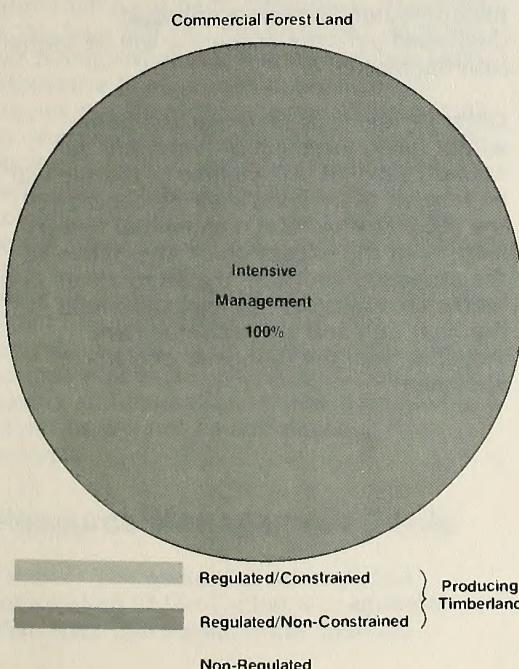
Unshaded portions of the pie will be termed Non-Regulated.

Other divisions of land-use allocation within these three major types will be suitably labeled. All wedges of the pie will be labeled to indicate their percentage of the 306,000-acre total commercial forest land. With the exception of Alternative K, the proposed decision, the alternatives that follow are identical to those described in the final EIS, and are reprinted here verbatim from the proposed decision document.

A. "Maximum Timber Production" (final EIS Alt. 10)

This alternative would devote all commercial forest land (306,000 acres) to the intensive production of timber. Included in this production base would be 22,148 acres judged to be incapable of sustained yield timber production without significant site degradation. Timber stands available for final harvest would have an average minimum size of 13 inches dbh, which is normally reached in 40 years. Harvest at this size would begin in about 30 years, and continue for 50 years. As a result, all timber 50 years and older would be removed from the forest by the end of the third decade.

A major increase in the allowable harvest would occur in the fifteenth decade at which time the forest would be in a "surplus" state, that is, more harvest-age timber (80+) would be



available than necessary to maintain the allowable harvest at the biological optimum. A fully regulated forest would be achieved in the twenty-first decade at which time the harvest level would be approximately 460 MM bd. ft. A fully regulated forest is characterized by an even distribution of age classes with the oldest being the age at which growth rate peaks. This is projected to be approximately 80 years. During the first decade, an annual timber sale program of 325 MM bd. ft. would be produced by harvesting approximately 55,000 acres. Lands designated for other resource uses would be limited to existing recreation sites and lands classed as non-commercial or non-forest.

Economic Situation

1. Total Annual Work/Years = 5,052
2. Percent of Total Employment Attributable to BLM Harvest Level

| County | Percent |
|----------|---------|
| Coos | 10.0 |
| Curry | 1.5 |
| Douglas | 3.7 |
| Lane | 0.3 |
| Combined | 2.3 |

3. Total Annual Earnings (x 1000) = \$69,344
4. Annual Timber Sale Receipts (x 1000) = \$90,675
5. Annual Opportunity Cost
(Not applicable for this alternative since this is the level to which the other alternatives will be compared.)

Biological-Physical Environment

Wildlife - This alternative would eliminate old-growth and riparian habitat types over a 30-year period. There is a high probability that viable populations of species that find their optimum habitat in these types could disappear from BLM land and from the EIS area generally (See

final EIS, Appendix F for species list). One of these species would be the northern spotted owl, which the State of Oregon considers to be threatened. The loss of riparian habitat would have a significant negative impact on the production of anadromous fish. Obviously, this alternative would not meet the goal established for wildlife habitat management. Most importantly, implementation of this alternative would preclude the adoption of a habitat diversity program at the next 10-year planning cycle. Much of the old-growth would be gone and that which remained would not be in a spatial pattern that could be effectively used.

Watershed - The protection of riparian areas around streams of third order and larger is considered essential to the assured maintenance of water quality. Elimination of major vegetation in this zone allows no margin for error if "best management practices" are not fully successful. The harvesting of 22,148 acres of fragile sites would be counter to the soil productivity maintenance objective contained in both the watershed and timber management goals. As an indicator of soil and water quality impact, this alternative is estimated to produce 223,800 tons of erosion and 15,600 tons of sediment during the first decade.

Visual Resources - It would not be possible to meet quality objectives for either Class II or Class III visual areas under this alternative. Visual quality would be degraded along major travel routes such as Highways 38, 42 and 101.

Long-range Timber Productivity - This alternative would not maintain an adequate representation of functioning old-growth ecosystems by the end of the first decade. Should research clearly establish the importance of some aspect or component of the old-growth ecosystem to long-term timber production, the replication of this critical element may not be possible.

B. "Emphasis on Timber Production" (final EIS Alt. 1)

This alternative would devote 273,282 acres to the intensive production of timber.

Approximately 10,800 acres of riparian zones on third order and larger streams would be excluded from regulated harvest, as would the 22,148 acres of fragile sites. Timber stands available for final harvest would have an overall minimum size of 16 inches dbh, which is normally reached in 50 years. Harvest at this size would occur from the beginning of the fourth to the sixth decade. A major increase in the allowable harvest would occur in the eighth decade at which time the forest would be in a "surplus" state. Note that this state is reached seven decades sooner than that predicted under the previous alternative with a 13-inch dbh minimum harvest size. In addition, full regulation would be reached in the sixteenth

decade rather than the twenty-first. This relationship tends to hold true for all alternatives; that is, a decrease in the minimum harvest size tends to increase the immediate harvest level, but lengthen the time to further allowable harvest increases and full regulation. An annual timber sale program of 272 MM bd. ft. would be produced by harvesting approximately 46,200 acres during the first decade.

Economic Situation

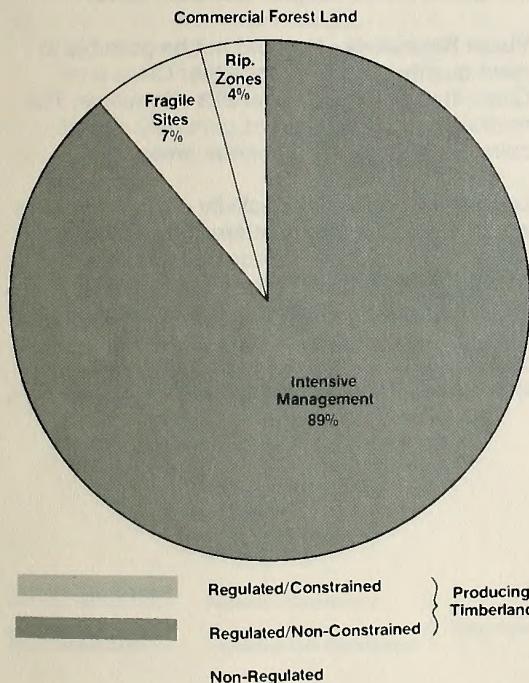
1. Total Annual Work/Years = 4,235
2. Percent of Total Employment Attributable to BLM Harvest Level

| County | Percent |
|----------|---------|
| Coos | 8.4 |
| Curry | 1.2 |
| Douglas | 3.1 |
| Lane | 0.3 |
| Combined | 2.0 |

3. Total Annual Earnings (x 1000) = \$58,138
4. Annual Timber Sale Receipts (x 1000) = \$75,888
5. Annual Opportunity Costs - The adoption of this alternative would forego the following benefits when compared to the indicated alternatives:

Maximum Timber Alternative "A"

- a. Total Work/Years = 807
- b. Total Earnings (x 1000) = \$11,206
- c. Timber Sale Receipts (x 1000) = \$14,787



Biological-Physical Environment

Wildlife - This alternative would eliminate all but approximately 10,000 acres of old-growth habitat by the third decade. There is a high probability that viable populations of species that find their optimum habitat in old-growth would disappear from BLM land. Implementation of this alternative would preclude the adoption of a habitat diversity program in the next 10-year planning cycle.

Preservation of riparian habitat would benefit many species of terrestrial wildlife. It also would enable BLM to move ahead with an intensive program aimed at increasing the production of anadromous fish.

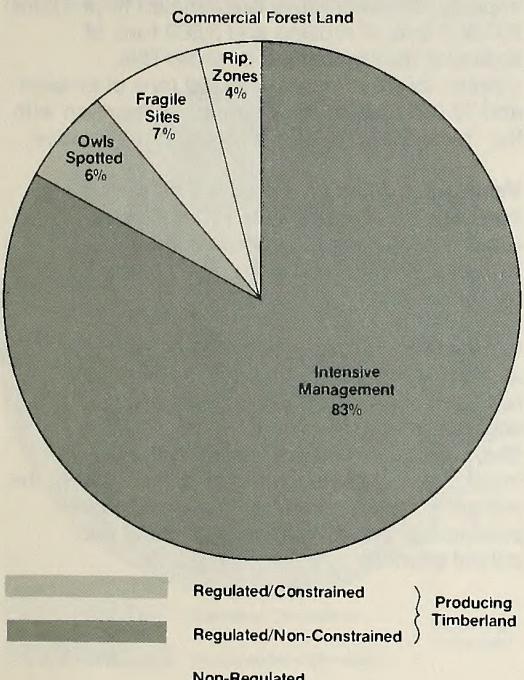
Watershed - The protection of major riparian areas and fragile sites under this alternative would allow the attainment of watershed goals. As an indicator of soil and water quality impacts, this alternative is estimated to produce 207,300 tons of erosion and 3,600 tons of sediment during the first decade. This represents a decrease of 16,500 tons of erosion and 12,000 tons of sediment in comparison with the "Maximum Timber Production" alternative.

Visual Resources - It would not be possible to meet quality objectives for either Class II or Class III visual areas under this alternative. Visual quality would be degraded along major travel routes.

Long-range Timber Productivity - This alternative would not maintain an adequate representation of functioning old-growth ecosystems by the end of the first decade. Should research clearly establish the importance of some aspect or component of the old-growth ecosystem to long-term timber production, the replication and use of this critical element may not be possible.

C. "Emphasis on Timber Production Consistent with the Spotted Owl Management Plan" (final EIS Alt. 2)

This alternative would devote 254,250 acres to the intensive production of timber. Approximately 18,800 acres would be managed for the protection of the northern spotted owl by placing the area on an extended (350-year) rotation. In other respects, this alternative is identical to the "Emphasis on Timber Production" alternative. An annual timber sale program of 251 MM bd. ft. would be produced by harvesting approximately 42,700 acres during the first decade.



Economic Situation

1. Total Annual Work/Years = 3,911
2. Percent of Total Employment Attributable to BLM Harvest Level

| County | Percent |
|----------|---------|
| Coos | 7.8 |
| Curry | 1.2 |
| Douglas | 2.9 |
| Lane | 0.3 |
| Combined | 1.8 |

3. Total Annual Earnings (x 1000) = \$53,675
4. Annual Timber Sale Receipts (x 1000) = \$70,029
5. Annual Opportunity Costs - The adoption of this alternative would forego the following benefits when compared to the indicated alternatives

| | Previous Alternative "B" | Maximum Alternative "A" |
|--|-----------------------------|----------------------------|
| a. Total Work/Years | 324 | 1,411 |
| b. Total Earning (x 1000) | \$4,463 | \$15,669 |
| c. Timber Sale Receipts (x 1000) | \$5,859 | \$20,646 |

Biological-Physical Environment

Wildlife - This alternative would provide adequate habitat for 16 pairs of northern spotted owls based on the original recommendations of the Oregon Endangered Species Task Force. The original guidelines called for a 1,200-acre range for each pair of owls, containing at least 300 acres of old growth. Recent revisions of the guidelines call for a 4,500-acre range with 1,000 acres of old growth. If the assumptions that underlie the revision of these guidelines prove correct, the same acreage would provide

adequate habitat for only five pairs. Currently, 25 pairs are known to exist on the District. Essentially, this is a single species alternative, that is, it is aimed specifically at the northern spotted owl. While some other old-growth dependent species may benefit from the maintenance of old-growth for owls, it will not provide adequate habitat for viable populations of most species. Generally speaking, the northern spotted owl areas are not close enough to avoid genetic isolation for species with limited mobility. Implementation of this alternative would probably preclude the adoption of a habitat diversity program in the next 10-year cycle.

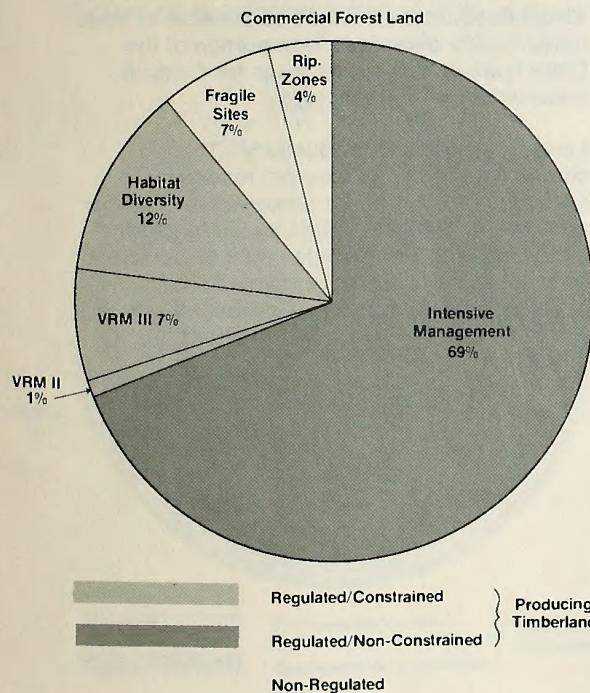
Watershed - This alternative would allow the attainment of watershed goals. As an indicator of soil and water quality impacts, this alternative is estimated to produce 203,700 tons of erosion and 3,400 tons of sediment during the first decade. This represents a decrease of 3,600 tons of erosion and 200 tons of sediment in comparison with the previous alternative.

Visual Resources - It would not be possible to meet quality objectives for either Class II or Class III visual areas under this alternative. The northern spotted owl areas generally do not coincide with visually sensitive areas.

Long-term Timber Productivity - This alternative would provide widely scattered large blocks of old-growth. However, adequate representation of seed zones and elevations would not be available, with possible negative impacts on long-term timber productivity. In addition, floral and faunal gene flow of old-growth related species would be precluded in many areas.

D. "Proposed Action with Lower Average Minimum Harvest Size" (final EIS Alt. 6)

This alternative would devote 210,362 acres to the intensive production of timber. Approximately 36,500 acres would be managed on an extended (350-year) rotation to provide for the old-growth component of habitat diversity. Such management would have large blocks (940 acres) of mid-age and old-growth forest linked by 80-acre "stepping stones" of similar-aged stands forming a discontinuous corridor on BLM-administered lands. About 4,100 acres would be managed to meet Class II visual objectives and 20,000 acres to meet Class III visual objectives. Riparian zones and fragile sites would be managed as described in alternatives B and C. Timber stands available for final harvest on the intensively managed lands would have an average minimum size of 13 inches dbh, which is normally reached in 40



years. Harvest at this size would occur from about the fourth through the eighth decades. The intensively managed forest would reach a "surplus" state in about the fifteenth decade and a regulated state in the twenty-first decade with an estimated harvest level at that time of about 270 MM bd. ft. annually. During the first decade, an annual timber sale program of 244 MM bd. ft. would be produced by harvesting approximately 40,900 acres. Note that the final EIS listed an annual harvest level of 239 MM bd. ft. for this alternative. Correction of some acreage errors and a more precise computer analysis resulted in the new annual harvest level.

Economic Situation

1. Total Annual Work/Years = 3,782
2. Percent of Total Employment Attributable to BLM Harvest Level
3. Total Annual Earnings (x 1000) = \$52,277
4. Annual Timber Sale Receipts (x 1000) = \$68,076
5. Annual Opportunity Costs - The adoption of this alternative would forego the following benefits when compared to the indicated alternatives

| | Previous Alternative "C" | Maximum Timber Alternative "A" |
|----------------------------------|--------------------------|--------------------------------|
| a. Total Work/Years | 129 | 1,270 |
| b. Total Earnings (x 1000) | \$1,398 | \$17,067 |
| c. Timber Sale Receipts (x 1000) | \$1,953 | \$22,599 |

Biological-Physical Environment

Wildlife - This alternative would provide habitat diversity at the minimum level necessary to meet wildlife goals by supplying spatially oriented old-growth stands. While population counts of species favoring old-growth would decline significantly, there is a reasonable probability that at least viable populations would remain. The 16 pairs of northern spotted owls would be protected with this alternative under the original task force guidelines.

Watershed - This alternative would allow the attainment of watershed goals. As an indicator of soil and water quality impacts, this alternative is estimated to produce 201,500 tons of erosion and 3,200 tons of sediment during the first decade. This represents a slight decrease from Alternative "C." (Spotted Owl Management).

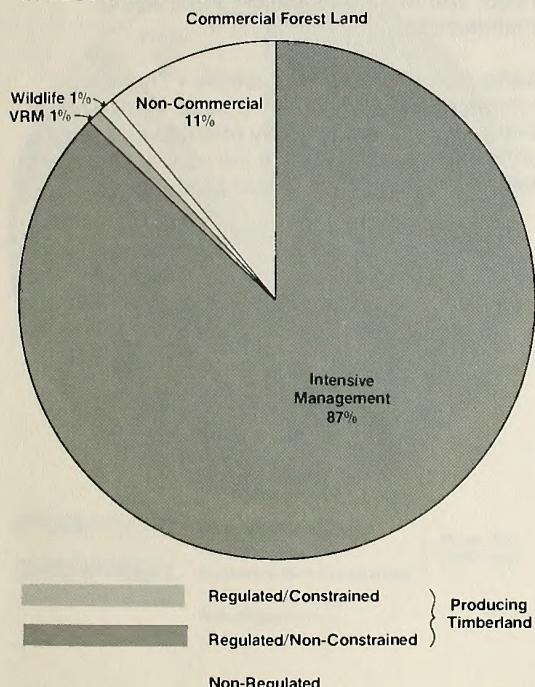
Visual Resources - Objectives for Class II and Class III visual areas could be met under this alternative. Visual quality on BLM lands along major and secondary travel routes would be maintained.

Long-range Timber Productivity - This alternative would maintain a basic framework of old-growth stands spatially oriented by seed zone and elevation should they prove necessary to preserve long-term timber productivity.

E. "No Action - No Change" (final EIS Alt. 8)

This alternative is basically a continuation of the 1971 timber management plan. The intensive timber production base would be 264,260 acres. Approximately 4,200 acres would be withdrawn from regulated harvest for wildlife and about 2,700 acres of high quality scenic areas would be protected. Major streams would receive some protection by minimal buffer strips, although harvesting would not be precluded in such areas. The intensity of timber management would be somewhat less than that proposed for the other alternatives. Generally speaking, there would be less precommercial thinning and no fertilization.

Timber stands available for final harvest would have an average minimum harvest size of about 21 inches dbh, which is normally reached in 70 years. The forest would reach a regulated state in about the eleventh decade.



An annual timber sale plan of 234 MM bd. ft. would be produced. Most of the land identified as being incapable of sustained yield management by the Timber Production Capability Classification inventory would be available for harvest. The TPCC inventory came after the development of the 1971 plan.

Economic Situation

1. Total Annual Work/Years = 3,627

2. Percent of Total Employment Attributable to BLM Harvest Level

| County | Percent |
|----------|---------|
| Coos | 7.2 |
| Curry | 1.1 |
| Douglas | 2.7 |
| Lane | 0.3 |
| Combined | 1.7 |

3. Total Annual Earnings (x 1000) - \$49,842

4. Annual Timber Sale Receipts (x 1000) = \$65,286

5. Annual Opportunity Costs - The adoption of this alternative would forego the following benefits when compared to the indicated alternatives:

| | Previous Alternative "D" | Maximum Timber Alternative "A" |
|-------------------------------------|-----------------------------|-----------------------------------|
| a. Total Work/Years | 155 | 1,425 |
| b. Total Earnings (x 1000) | \$2,435 | \$19,502 |
| c. Timber Sale Receipts (x 1000) | \$2,790 | \$32,669 |

Biological-Physical Environment

Wildlife - This alternative would eliminate all but a small portion of the old-growth type by the end of the third decade. There is a high probability that viable populations of species which find their optimum habitat in this type would disappear from BLM land (See final EIS, Appendix F for Species List). The limited buffer strips proposed under this alternative would not fully maintain riparian areas, and the potential for increased production of anadromous fish would be limited. Implementation of this alternative would probably preclude the adoption of a habitat diversity program at the next 10-year planning cycle.

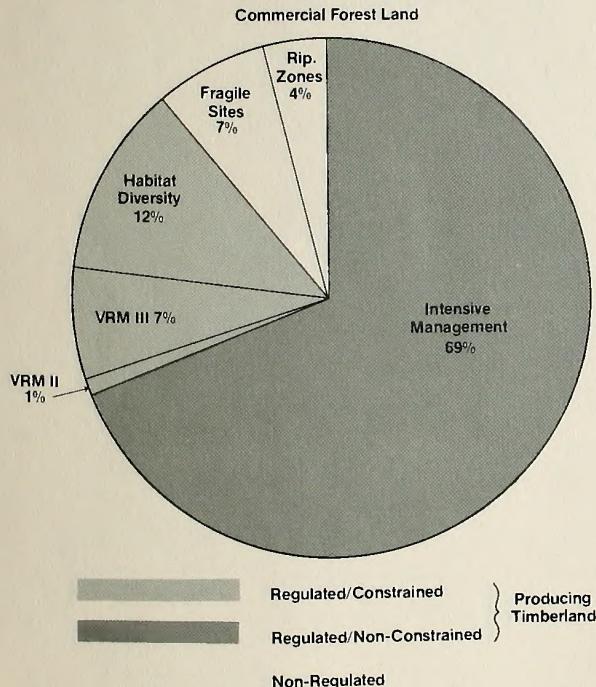
Watershed - Use of limited buffer rather than full riparian zone protection allows little margin for error if "best management practices" are not successful. The harvesting of fragile areas is counter to both watershed and timber management goals.

Visual Resources - It would be possible to meet visual quality objectives for a portion of the Class II areas. Visual objectives for Class III areas would not be achieved.

Long-range Timber Productivity - This alternative would probably not maintain a system of old-growth for preservation of timber productivity. While the quantity of old-growth remaining after one decade might be sufficient, its spatial pattern would not provide adequate coverage of seed zones and elevations, nor would constraints be applied to afford protection during the decade.

F. "The Final EIS Proposed Action"

This alternative is identical in terms of land use to Alternative "D" ("Proposed Action with Lower Average Harvest Size"). In Alternative "F," stands available for final harvest on the intensive base would have an average minimum size of 16 inches dbh rather than 13 inches dbh. The net effect of this difference is to shorten the time until the forest reaches its maximum productive state (regulated forest) from about 210 years to 150 years. In addition, the time until the next allowable harvest increase would be shortened from 150 years to 90 years. The total production of wood over the next 210 years would be approximately 3 percent higher than under Alternative "D." This results primarily because Alternative "D" causes the harvest of the forest to be focused in young stands that are below their optimum biological growth level (culmination of mean annual increment) for a longer period of time.



Essentially, the higher minimum harvest size in Alternative "F" is a more biologically efficient way of bringing the forest to regulation. However, this efficiency comes at the cost of a lower current allowable cut. An annual timber sale program of 218 MM bd. ft. would be produced by harvesting approximately 37,100 acres during the first decade.

Economic Situation

1. Total Annual Work/Years = 3,408
2. Percent of Total Employment Attributable to BLM Harvest Level

| County | Percent |
|----------|---------|
| Coos | 6.8 |
| Curry | 1.1 |
| Douglas | 2.5 |
| Lane | 0.2 |
| Combined | 1.6 |

3. Total Annual Earnings (x 1000) - \$46,782
4. Annual Timber Sale Receipts (x 1000) = \$60,822
5. Annual Opportunity Costs - The adoption of this alternative would forego the following benefits when compared to the indicated alternatives:

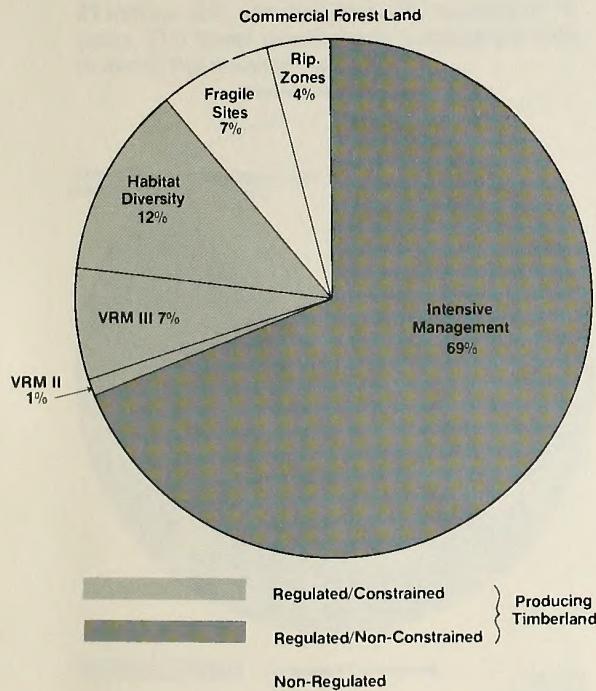
| | Previous Alternative "E" | Maximum Timber Alternative "A" |
|----------------------------------|--------------------------|--------------------------------|
| a. Total Work/Years | 219 | 1,644 |
| b. Total Earnings (x 1000) | \$3,060 | \$22,562 |
| c. Timber Sale Receipts (x 1000) | \$4,464 | \$29,853 |

Biological-Physical Environment

Major biological-physical environmental relationships would be nearly identical to those described for Alternative "D." There would be some minor improvement in wildlife, watershed and visual resources as a result of the reduced final harvest level.

G. "No Control of Competing Vegetation with Herbicides" (final EIS Alt. 4)

This alternative is identical in terms of land use to Alternatives "D" and "F." The difference in Alternative "G" is that herbicides would not be used to control grass, brush or hardwood species growing in competition with commercial coniferous tree species. Control of vegetation for timber management by using biological, mechanical or manual means would be prescribed at approximately the same investment cost as the use of herbicides in Alternative "F" (final EIS Proposed Alternative) to provide a means of direct comparison between the two alternatives. An annual timber sale program of 203 MM bd. ft. would be produced by harvesting approximately 34,900



acres during the first decade. Continuation of the "no herbicide" alternative beyond the first decade would result in greater reduction in future potential timber productivity of about 35 percent in approximately eight decades.

harvest level. Also, some improvement in big game forage and habitat diversity could result from less control of brush and hardwoods.

Economic Situation

1. Total Annual Work/Years = 3,180
2. Percent of Total Employment Attributable to BLM Harvest Level

County Percent

| | |
|----------|-----|
| Coos | 6.3 |
| Curry | 1.0 |
| Douglas | 2.4 |
| Lane | 0.2 |
| Combined | 1.5 |

3. Total Annual Earnings (x 1000) - \$43,640
4. Annual Timber Sale Receipts (x 1000) = \$56,637
5. Annual Opportunity Costs - The adoption of this alternative would forego the following benefits when compared to the indicated alternatives:

| | Previous Alternative "F" | Maximum Timber Alternative "A" |
|----------------------------------|--------------------------|--------------------------------|
| a. Total Work/Years | 228 | 1,872 |
| b. Total Earnings (x 1000) | \$3,322 | \$25,704 |
| c. Timber Sale Receipts (x 1000) | \$4,185 | \$34,038 |

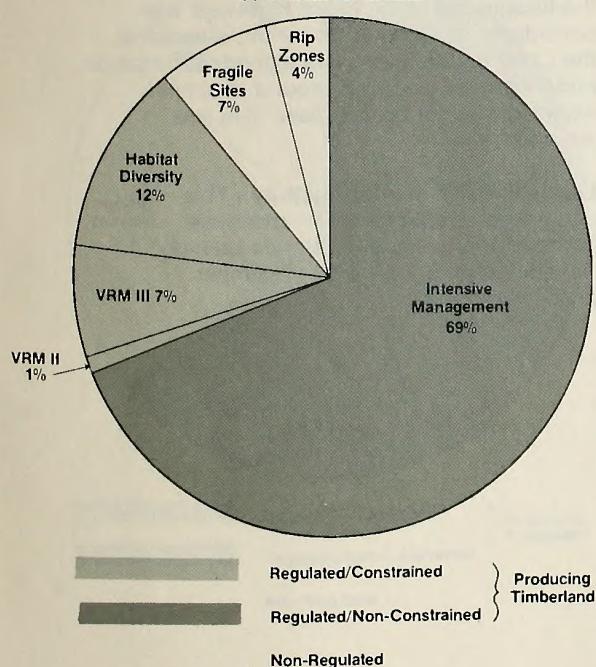
Biological-Physical Environment

Major biological-physical environmental relationships would be nearly identical to those described for Alternative "D." There would be some minor improvement in wildlife, watershed and visual resources as the result of a reduced

H. "No Allowable Cut Effect" (final EIS Alt. 7)

This alternative is identical in terms of land use to Alternatives "D," "F" and "G." The difference is that credit for expected increased yields from intensive timber management practices (genetically improved stock, fertilization, precommercial and commercial thinnings) would not be taken until gains are realized in future inventories. It is Bureau policy to take credit in allowable-cut planning for the present and future effects of practices that are environmentally, technically and economically feasible (BLM Manual 5240). Such credit is taken by harvesting timber that is excess to the amount necessary to maintain an even flow at the non-intensive management level. This procedure has been termed the "Allowable Cut Effect" (ACE). In the SCCSYU, there was only sufficient harvest age timber to take credit for about 40 percent of projected future yields. The "Allowable Cut Effect" was used for all

Commercial Forest Land



alternatives except Alternative "H." An annual timber sale program of 189 MM bd. ft. would be produced under this alternative by harvesting approximately 33,900 acres during the first decade.

Economic Situation

1. Total Annual Work/Years = 2,961
2. Percent of Total Employment Attributable to BLM Harvest Level
3. Total Annual Earnings (x 1000) - \$40,885
4. Annual Timber Sale Receipts (x 1000) = \$52,731
5. Annual Opportunity Costs - The adoption of this alternative would forego the following benefits when compared to the indicated alternatives:

| Alternative "F" Proposed Action | Maximum Timber Alternative "A" |
|----------------------------------|--------------------------------|
| a. Total Work/Years | 447 |
| b. Total Earnings (x 1000) | \$5,897 |
| c. Timber Sale Receipts (x 1000) | \$8,091 |
| | \$28,449 |
| | \$37,944 |

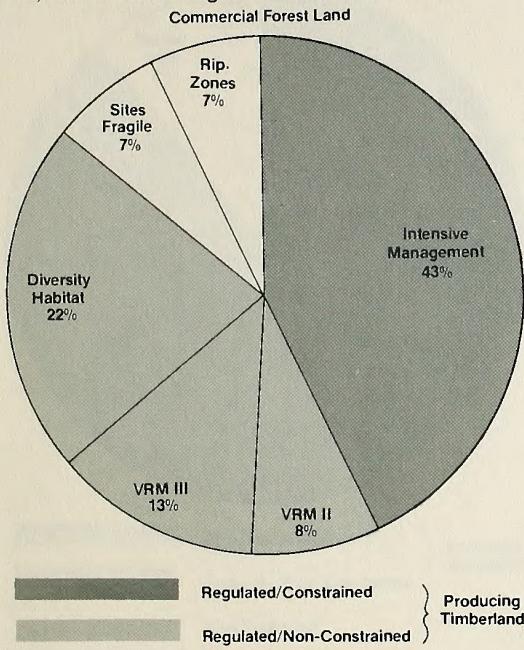
Biological-Physical Environment

Major biological-physical relationships would be similar to those described for Alternative "D." There would be some improvement in wildlife, watershed and visual resources as a result of the reduced harvest level. As an indicator of soil and water quality impacts, this alternative is estimated to produce 193,300 tons of erosion and 2,673 tons of sediment. This represents a decrease of 4,700 tons of erosion and 330 tons of sediment in comparison with Alternative "F" (final EIS Proposed Action).

I. "Emphasis on Non-Timber Values" (final EIS Alt. 3)

This alternative would devote 131,844 acres to the intensive production of timber.

Approximately 66,150 acres would be managed on an extended (350-year) rotation to provide for the old-growth component of habitat diversity. Unlike the corridor approach used in Alternatives "D," "F," "G" and "H," this alternative provides for a distribution of mid-age and old-growth stands throughout the District. Each township would contain at least one 640-acre block and each section would have an 80-acre block of mid-age and old-growth stages. About 24,900 acres would be managed to meet Class II visual objectives and 39,000 acres to meet Class III visual objectives. Approximately 20,900 acres of riparian zones on second order and larger streams would be excluded from regulated harvest as would the 22,148 acres of fragile sites. Timber stands



available for final harvest on the intensive base would have an average minimum size of 16 inches dbh, which is normally reached in 50 years. An annual timber sale program of 150 MM bd. ft. would be produced by harvesting approximately 25,600 acres during the first decade.

Economic Situation

1. Total Annual Work/Years = 2,443

2. Percent of Total Employment Attributable to BLM Harvest Level

| County | Percent |
|----------|---------|
| Coos | 4.9 |
| Curry | 0.7 |
| Douglas | 1.8 |
| Lane | 0.2 |
| Combined | 1.1 |

3. Total Annual Earnings (x 1000) - \$33,534

4. Annual Timber Sale Receipts (x 1000) = \$41,850

5. Annual Opportunity Costs - The adoption of this alternative would forego the following benefits when compared to the indicated alternatives:

| | Alternative "F" Proposed Action | Maximum Timber Alternative "A" |
|----------------------------------|---------------------------------|--------------------------------|
| a. Total Work/Years | 965 | 2,609 |
| b. Total Earnings (x 1000) | \$13,248 | \$35,810 |
| c. Timber Sale Receipts (x 1000) | \$18,982 | \$48,825 |

Biological-Physical Environment

Wildlife - This alternative would meet the habitat diversity goal by supplying well spaced mid-age and old-growth stands as well as riparian areas. While population counts of species favoring old-growth would decline, there is a high probability that viable populations would remain. It is anticipated that the current population of 25 pairs of northern spotted owls could be maintained using current guidelines.

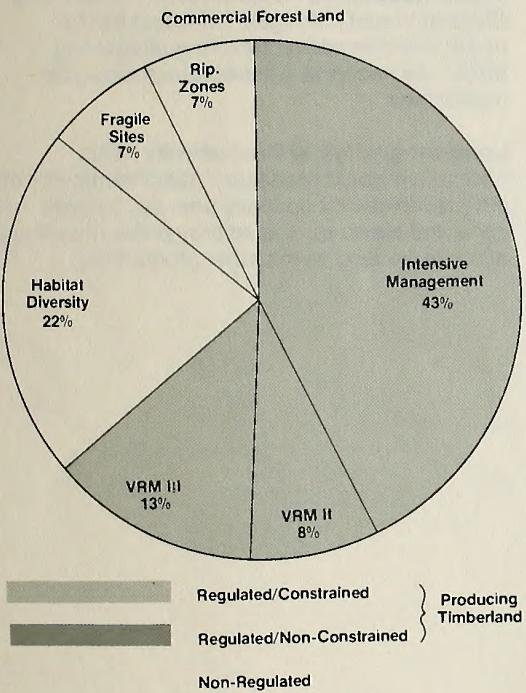
Watershed - This alternative would provide a high probability that watershed goals would be attained. As an indicator of soil and water quality impacts, this alternative is estimated to produce 137,200 tons of erosion and 2,070 tons of sediment during the first decade. This represents a decrease of 60,800 tons of erosion and 929 tons of sediment in comparison with Alternative "F" (final EIS Proposed Action).

Visual Resources - Visual quality would be maintained to a higher level under this alternative. In other alternatives, for example, the foreground along major highways was considered as Class II. Under this alternative, the Class II objectives were extended to include middle ground and background. A similar extension was made for Class III in less sensitive areas.

Long-range Timber Productivity - This alternative would provide an extensive framework of old-growth stands spatially oriented to preserve long-term timber productivity.

J. "Emphasis on Wildlife Habitat plus Other Non-timber Values (final EIS Alt. 9)

This alternative has essentially the same land use allocation as Alternative "I." However, the 66,150 acres of old-growth for habitat diversity would be completely withdrawn from regulated harvest under this alternative. In addition, a spatial constraint of 15 years on adjacent clearcuts would be applied to provide a better cover/forage relationship for deer and elk. This is done to help counter the downward population trends forecast under all alternatives. An annual timber sale program of 129 MM bd. ft. would be produced by harvesting approximately 21,300 acres during the first decade.



Economic Situation

1. Total Annual Work/Years = 2,029
2. Percent of Total Employment Attributable to BLM Harvest Level

| County | Percent |
|----------|---------|
| Coos | 4.0 |
| Curry | 0.6 |
| Douglas | 1.5 |
| Lane | 0.2 |
| Combined | 0.9 |

3. Total Annual Earnings (x 1000) - \$27,841
4. Annual Timber Sale Receipts (x 1000) = \$35,991
5. Annual Opportunity Costs - The adoption of this alternative would forego the following benefits when compared to the indicated alternatives

| | Previous Alternative "I" | Maximum Timber Alternative |
|----------------------------------|-----------------------------|----------------------------|
| a. Total Work/Years | 414 | 3,023 |
| b. Total Earnings (x 1000) | \$5,693 | \$41,503 |
| c. Timber Sale Receipts (x 1000) | \$5,859 | \$54,684 |

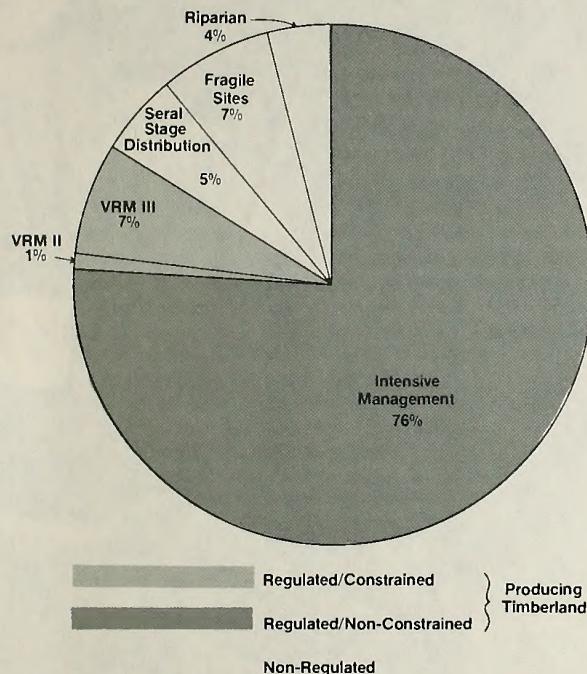
Biological-Physical Environment

Major biological-physical environmental relationships would be similar to those described for Alternative "I." There would be some minor improvements in watershed and visual resources as a result of the reduced final harvest level. In the short run, the 15-year spatial constraint on clearcutting should slow the projected decline in elk and deer populations.



K. "The Proposed Decision of September 23, 1982"

This alternative would devote 231,681 acres to intensive timber management. About 4,343 acres would be managed to meet Class II Visual Objectives and 22,127 acres to meet Class III Visual Objectives. Riparian zones and fragile sites would be managed as described in the proposed action. A total of 14,959 acres or 5 percent of the commercial forest land would be withdrawn from the timber management base for this decade in order to maintain a minimal level of mid-age and old-growth seral stages. An annual harvest of 266 MM bd. ft. would be produced by harvesting approximately 41,970 acres during the first decade.



Economic Situation

1. Total Annual Work/Years = 4,123
2. Percent of Total Employment Attributable to BLM Harvest Level

| County | Percent |
|----------|---------|
| Coos | 8.3 |
| Curry | 1.2 |
| Douglas | 3.1 |
| Lane | 0.3 |
| Combined | 1.9 |

3. Total Annual Earnings (x 1000) = \$57,190
4. Annual Timber Sale Receipts (x 1000) = \$74,214
5. Annual Opportunity Cost - The adoption of this alternative would forego the following benefits when compared to the indicated alternatives:

| | Maximum Timber Alternative "B" | Alternative "A" |
|----------------------------------|--------------------------------|-----------------|
| a. Total Work/Years | 112 | 920 |
| b. Total Earnings (x 1000) | \$ 948 | \$12,154 |
| c. Timber Sale Receipts (x 1000) | \$1,674 | \$16,461 |

Biological-Physical Environment

Wildlife - This alternative may accelerate the decline of Roosevelt elk numbers forecast for the Final EIS Preferred Alternative but the same population levels would be reached over the 100-year period. It would probably reduce northern spotted owl habitat from that currently supporting 25 pairs to a level that would support an estimated six to eight pairs by the end of the first decade. Implementation of this alternative would probably preclude the adoption of a habitat diversity program in the next planning cycle.

Watershed - This alternative would allow the attainment of watershed goals. Erosion and sediment yield would be intermediate between Alternatives B and C.

Visual Resources - Objectives for Class II and Class III Visual Management would be met under this alternative. Scenic quality along major and secondary travel routes would be maintained.

Long-range Timber Productivity - This alternative would maintain a basic framework of old-growth stands spatially oriented by seed zone and elevation should they prove necessary to preserve long-term timber productivity.

Summary Rationale for Elimination of Alternatives from Further Consideration

| EIS Alternative | Summary Rationale |
|--|--|
| A. Maximum Timber | Magnitude of negative environmental impacts unacceptably high. |
| B. Emphasis on Timber | No provision for maintaining scenic qualities, habitat of old-growth dependent wildlife including spotted owls, or seral stage distribution. |
| C. Spotted Owl | No provision for maintaining scenic qualities, viable populations of many old-growth dependent species, or seral stage distribution. |
| D. Lower Minimum Harvest Size | Commits to long-term management with replacement acres before research has demonstrated the need to maintain old-growth on a perpetual basis. |
| E. No Action | No provision for habitat of old-growth dependent species, including spotted owls or seral stage distribution. Not current with state of the art intensive management practices. |
| F. Final EIS Proposed Action | Commits to long-term management with replacement acres before research has demonstrated the need to maintain old-growth on a perpetual basis. Socioeconomic impacts unacceptably high. |
| G. No Herbicides | Socioeconomic impacts unacceptably high. Eliminates use of an effective intensive management practice. |
| H. No ACE | Socioeconomic impacts unacceptably high. Not consistent with allowable cut policy. |
| I. Emphasis on Non-Timber | Not consistent with the basic mandate of the O&C Act. |
| J. Emphasis on Wildlife | Not consistent with the basic mandate of the O&C Act. |
| K. Proposed Decision of September 23, 1982 | No provision for habitat of old-growth dependent wildlife including spotted owls. |

Appendix B - NEPA Goals Analysis

Alternatives

| Goal No. | A | B | C | D | E | F | G | H | I | J | K |
|----------------|----------------|--------------------|-------------|----------------------------|-----------|---------------------------|---------------|--------|------------------------|----------------------|----------------------------------|
| | Maximum Timber | Emphasis on Timber | Spotted Owl | Lower Minimum Harvest Size | No Action | Final EIS Proposed Action | No Herbicides | No ACE | Emphasis on Non-Timber | Emphasis on Wildlife | Proposed Decision September 1982 |
| 1 | 1.1 | 3.2 | 4.8 | 6.1 | 6.1 | 7.5 | 7.9 | 7.9 | 8.1 | 8.3 | 5.0 |
| 2 | 2.0 | 3.6 | 4.9 | 7.2 | 6.5 | 8.1 | 8.1 | 8.0 | 7.9 | 7.3 | 5.5 |
| 3 | 1.1 | 2.8 | 4.3 | 6.0 | 5.6 | 8.1 | 8.0 | 7.9 | 7.8 | 6.0 | 4.8 |
| 4 | 1.8 | 3.2 | 4.5 | 6.1 | 5.8 | 8.0 | 8.1 | 8.6 | 8.0 | 7.8 | 5.1 |
| 5 | 2.6 | 4.5 | 5.1 | 7.2 | 7.1 | 9.0 | 7.6 | 5.9 | 4.4 | 2.6 | 6.8 |
| 6 | 3.1 | 4.9 | 5.5 | 5.9 | 5.9 | 7.8 | 7.1 | 6.9 | 5.1 | 3.8 | 6.4 |
| Average Rating | 2.0 | 3.7 | 4.8 | 6.4 | 6.2 | 8.1 | 7.8 | 7.5 | 6.8 | 6.0 | 5.6 |
| Overall Rank | 11 | 10 | 9 | 5 | 6 | 1 | 2 | 3 | 4 | 7 | 8 |

NOTE: The decision would rank approximately between alternatives D and E on this scale.



Appendix C - Public Concerns and Issues

A list of the most frequently addressed summary comments on the proposed decision indicates the broad range of input received. Parenthetical numbers show the frequency of comments.

- The harvest level is too dependent on a budget increase (31).
- More acreage should be included in the timber base (31).
- The plan doesn't comply with applicable federal laws (28).
- The plan will degrade the environment (25).
- The final EIS Preferred Alternative was a better plan (18).
- This decision shows good response to public input (17).
- More old-growth should be saved for protection of other values (14).
- The plan provides adequate environmental protection (14).
- The increased cut will help the local economy (14).
- The concept of Seral Stage Distribution isn't scientifically proven (14).
- The plan provides inadequate diversity of habitat (14).
- The plan doesn't comply with applicable state laws (13).
- The decision was made for political reasons only (13).
- The allowable cut is too high (12).
- The set-aside for Seral Stage Distribution isn't enough for its designated purpose (11).
- The increased cut will not help the local economy (7).
- The 40-year minimum harvest age is a bad idea (6).
- The decision shows poor response to public input (5).

- The plan will hurt the long-term productivity of the forest (5).
- Public Domain land shouldn't be managed as O&C (4).
- Monoculture is a dangerous practice (4).
- More acreage should be removed from the timber base (4).
- The decision requires a supplemental EIS (3).
- BLM should speed up the harvest of old-growth (3).
- The allowable cut is too low (3).

A breakdown of the summary comments by origin also is interesting.

| Comment Source | Most Frequent Comment |
|---------------------------|---|
| Individuals | The plan doesn't comply with applicable federal laws (14). |
| Citizen groups | The plan will degrade the environment (12). |
| Industry | The harvest level is too dependent on a budget increase (17). |
| Within the District | The plan will degrade the environment (15). |
| Within the rest of Oregon | The harvest level is too dependent on a budget increase (18). |

Major Issues - The following were major issues raised during public review of the proposed decision of September 1982.

Issue #1 — The Conformance of the Decisionmaking Process with the National Environmental Policy Act.

The Management Criteria for O&C Forest Lands, which formed the basis for the land-use allocations in the proposed decision, were cited by some commenters as being in conflict with the Solicitor's opinion of September 8, 1981, which addressed the legal status of BLM policy in O&C forests. Also, some respondents contended that the management criteria were implemented outside the NEPA process.

Respondents also stated that since the proposed decision is different from any of the alternatives analyzed in the EIS, it requires its own supplemental EIS. Reasons cited for this suggestion included the appearance of the Seral Stage Distribution concept, which was not analyzed or exposed to public review and comment at any other point in the decision process. Respondents charged that the proposed decision was not within the range of alternatives the public could reasonably have expected BLM to select, and thus made public comments on earlier considerations irrelevant to the proposed decision.

Response:

Public comments on the draft EIS for the South Coast-Curry Timber Management Plan questioned whether BLM planning efforts conformed to the spirit and intent of the O&C Act. To deal with this problem, a draft policy statement was prepared by BLM and submitted to the Interior Department Solicitor. In September 1981, the Solicitor issued an opinion on this draft policy which indicated that BLM has considerable discretionary authority in developing its final policy statement, and may choose one use over the other.

Subsequently, consideration was given to the opportunity costs, in terms of timber production foregone, associated with various non-timber land-use allocations. Because of their potential magnitude, and because of the concern for the long-term economic recovery of the Coos Bay area, an effort was made to set specific limits on non-timber uses of O&C lands. Thus, the management criteria were developed to address critical issues in a manner that considered the opportunity costs of a wide range of alternatives and were within the framework of legal opinion.

BLM has revised the forest resources policy for the O&C lands. This policy is the basis for this decision. The revised policy closely parallels the original, and it obviates the need for the management criteria.

The decision is to select a modification of an alternative analyzed in the EIS, thus satisfying NEPA requirements.

Issue #2 — The Consistency of the Proposed Decision with the Existing Sikes Act Agreement.

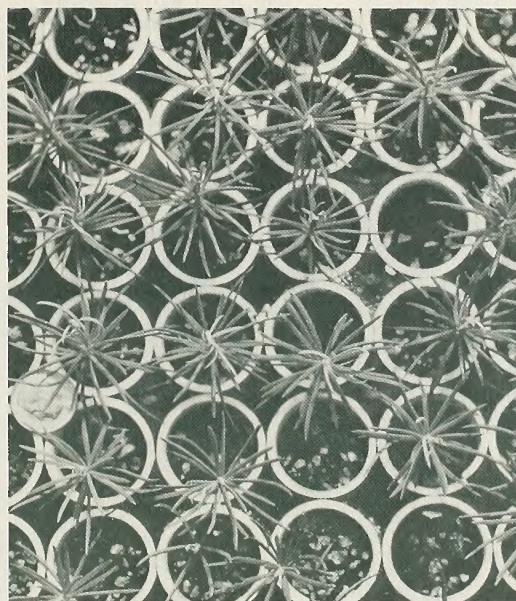
In 1975, BLM entered into an agreement with the State of Oregon under the Sikes Act, to protect species listed by the state as threatened or endangered. The northern spotted owl is listed by the state as threatened. Subsequently BLM agreed to consider the protection of some 90 pairs of the owls throughout western Oregon in accordance with the Interagency Spotted Owl Management Plan. It was charged that the lack of protection given the northern spotted owl in the proposed decision represented a direct violation of the two agreements. This, respondents said, hurts the effectiveness of that plan, and may eventually lead to the federal listing of the species.

Response:

In the Coos Bay planning process, alternatives were considered which ranged from maintaining all currently identified owl pairs to making no special provision for owls at all. Included within this range was the alternative of maintaining the number of pairs for which BLM provided interim protection under the Spotted Owl Management Plan. The decision set forth in this document continues to protect the number which were protected while planning.

Issue #3 — The Necessity for and the Adequacy of the Seral Stage Distribution System.

Some respondents were critical of the Seral Stage Distribution concept on the grounds that there is no scientifically valid rationale for such a withdrawal of land from the



timber base. The concept was called an unprofessional attempt to cater to preservationists, and an attempt to hide the habitat diversity withdrawals under another name.

The scientific basis for the concept was called weak and shallow, and said to be unsupported by the majority of the scientific community. Currently available techniques such as fertilization were said to be adequate to replace the natural processes occurring in old-growth timber, thereby obviating any need for withdrawal for research into these processes.

The management criteria which authorized the withdrawal for the system were said not to have been met, since BLM failed to show that the withdrawal was both minimal and necessary as prescribed in the criteria.

Other respondents charged that while the concept was valid, BLM had failed to withdraw adequate land from intensive timber harvest to achieve the stated purpose of the withdrawal. Some also mentioned that the promised research was unstructured, unfunded and probably never would be accomplished.

Response:

In developing the concept of Seral Stage Distribution, current scientific research was considered. Clearly this research information does not represent a detailed knowledge of the structure, function and interrelationships of the components of old-growth ecosystems. However, there are strong indications that certain natural parts of these systems such as nutrient cycling, nitrogen fixation and mycorrhizal dispersal may be keys to maintaining long-term timber productivity. Efforts in fertilization and mycorrhizal dispersal have been

launched in an attempt to replicate these natural occurrences. However, long-term efficiency and effectiveness of these efforts remain to be proven. Also, the promise shown by even the limited research to date hints at the possibility of additional valuable information awaiting discovery.

Unfortunately, current knowledge can neither prove nor disprove the importance of any such processes to future forest productivity. But this uncertainty carries a connotation of potentially significant effects on timber production and the health of the forest in general. It is certain that harvesting existing unprotected old-growth is a continuing and predictable aspect of the timber management program in the District.

If no provision is made to maintain an adequate representation of old-growth, the possibility exists that something of long-term importance may be gone before its value is recognized.

The plan does provide future decisionmakers with adequate mid-age and old-growth timber to work with if research indicates the need to maintain such systems. BLM's contribution to this research is described in the section on monitoring and research in this document.

Issue #4 — The Heavy Dependence on Increased Funding to Support the Allowable Harvest Level.

Many respondents said that the increased allowable cut was entirely too dependent on increased funding, which they felt would not be forthcoming. They said that the proposed decision's reliance on a budget increase was unrealistic. It was suggested that a less intensive, less expensive form

of timber management could be practiced on a larger land base to achieve a similar allowable harvest without being subject to undue fluctuations with the national economy. The additions to the timber base were to come from lands set aside in the plan for non-timber values.

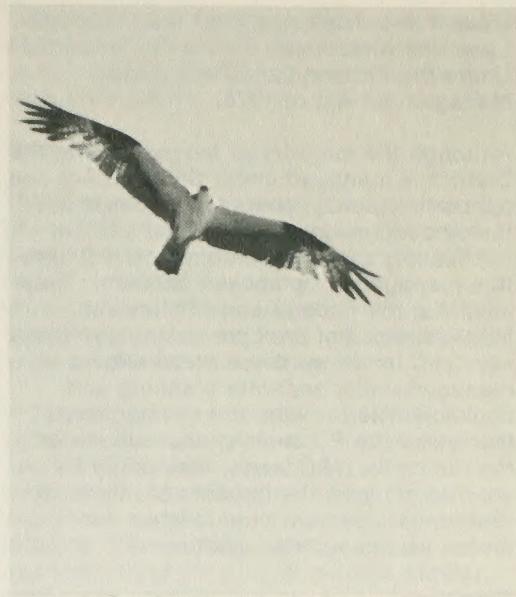
Response:

In dealing with this issue, it is helpful to make a distinction between the declaration of an allowable harvest level and the implementation of that level on an operational basis. In the case of the declaration, BLM policy requires the following:

*"The Authorized Officer of the Bureau of Land Management (State Director) shall determine and declare the annual **productive capacity** of the O&C Lands under the principle of sustained yield." 43 CFR, 5041.1 (emphasis added)*

*"The allowable cut must be based on a principle of sustained yield which requires planning for a **high level** and undiminishing flow of wood over time. While the actual harvest volume may vary from year to year, the principle shall be considered fulfilled if the average annual output for each 10-year period promises to remain constant or increase from one decade to the next." BLM Manual 5240.06 F.1. (emphasis added)*

"The inclusion of management practices such as precommercial and commercial thinning, intensive reforestation, fertilization, etc., on the allowable cut plan must be based on their environmental, technical and economic feasibility." BLM Manual 5240.06 H.1.



In essence, the State Director is required to declare an allowable harvest as high as can be sustained through the use of all intensive management practices which are economically, technically and environmentally feasible. Once this sustained yield capability is computed and declared, the problem becomes operational.

After a timber management plan is approved, the declared allowable cut remains constant. However, the annual volume of timber to be sold will be reduced in any year when funding is insufficient to support the full level of timber management prescribed in the plan. If, in subsequent years, the funding is restored and it is silviculturally possible to make up the growth loss, annual sales offerings will be increased.

Issue # 5 — The Legality of the Proposed Land-Use Allocations on the Public Domain Under the Federal Land Policy and Management Act of 1976.

Although the majority of federal land in the District is managed under the O&C Act and supporting policy, some respondents felt that the inclusion of the limited amount of the District's Public Domain land (PD) into this management plan was unlawful. They said that the Federal Land Policy and Management Act took precedence on these non-O&C lands, so these areas should be managed under separate planning and decision criteria. Also, it was suggested that since the PD lands do not fall under the policy for O&C lands, they could be used to mitigate the impacts of intensive timber management practices on non-timber values such as wildlife.

Response:

BLM agrees that the management of Public Domain is governed by FLPMA. The original land-use planning process in Coos Bay considered all District lands as a single entity without regard to underlying land status. This was a multiple-use process which did not initially rule out consideration of any resource or value.

The District completed an analysis of the PD lands. Since wildlife was the resource most impacted by the proposed decision, this analysis was designed to determine if opportunity existed to change the impacts identified in the EIS and proposed decision by changing the allocations on the PD lands. In order to identify the maximum possible effect, it was assumed in the analysis that all PD lands were to be managed primarily for the benefit of wildlife. Even under this assumption, it was determined that the impacts on wildlife would not change measurably.

Issue # 6 — The Consistency of the Proposed Decision with the Coastal Zone Management Act of 1972.

Respondents indicated that BLM failed to complete a determination of consistency with Oregon's federally approved Coastal Zone Management Act. A complete determination should be prepared pursuant to 15 CFR 930.39.

Response:

It is acknowledged that the issue of consistency should have been addressed more comprehensively at the time the proposed decision was issued. Appropriate state agencies are being provided with a more comprehensive consistency determination. That analysis concludes that the decision is fully consistent with all LCDC goals but Goal 5, and is technically consistent with Goal 5 which is "to conserve open space and protect natural and scenic resources." The issue relevant to Goal 5 is the contention that the proposal has an adverse effect on wildlife habitats and therefore populations. The habitats adversely affected, however, are on federal lands, which are excluded from the Coastal Zone by statutory definition.

Also noted is the incompatibility, in this situation, of Goals 5 and 9. Goal 9 is "to diversity and improve the economy of the state." It is doubtful that any alternative plan can both avoid variations in wildlife populations in the long-term and improve the timber segment of the economy. Given the emphasis on economic stability in the O&C Act, it is felt that consistency with Goal 9 must prevail over consistency with Goal 5. Therefore, the decision is considered to be consistent to the maximum extent practicable with the Oregon Coastal Zone Program.

Issue # 7 — The Consistency of the Proposed Decision with the Draft BLM Wildlife Program Policy.

The proposed decision was cited as being inconsistent with several portions of the draft policy for the BLM wildlife program dealing with:

- maintenance of diverse and viable populations of native wildlife through an ecosystem management approach in cooperation with state agencies and USF&WS.
- protection of unique, representative, outstanding and rare habitat.
- positive management actions on behalf of species identified as being in a declining status.

Respondents stated that the Coos Bay plan needs to be changed to comply with the draft wildlife policy statement.

Response:

The decision represents a greater degree of consistency with the Draft BLM Wildlife Program Policy than did the proposed decision. However, no management plan can be fully consistent with this type of individual program policy because of its intended function.

The planning system used in the District is designed to insure that all resources and values receive full consideration in the land-use allocation process. To accomplish this, each individual resource is handled as a separate entity through the initial stages of planning. A conscious effort is made to keep the early discussion of each resource free of consideration for multiple-use trade-offs.

The first of these planning stages is an inventory designed to describe the status of particular resources. It is followed by a stage which looks for the maximum possibilities in a given resource. All other considerations, such as economic feasibility, budget limitations, conflicts with other resources and so on, are ignored. Only technical feasibility is considered as a limiting factor, in order to find the maximum potential of each resource.

The next step is the specialist's recommendation. Here, the results of the previous step are screened using economic, legal and policy constraints. A program is developed which maximizes each resource or value in a program realistic enough that it could be implemented, but which still ignores all other values.

In order to facilitate this latter stage of the planning process, policy statements are developed for each separate resource. These include timber, wildlife, water, recreation, minerals and lands.

These policy statements are intended to insure that each individual resource has a fully developed, maximum program in the planning stage. Then, each can receive adequate consideration during the multiple use trade-off and decision processes which follow.

Because of their intended purpose, if the policy statements are examined individually, they often will appear to be at cross-purposes or even mutually exclusive. This is not a defect, given their intended purpose which is to insure a full discussion of conflicting values during the land-use decision phase.

In this planning process, then, a particular land-use allocation made on a specific geographic area frequently will appear to conflict with one or several of the program policy statements. This is an expected and predictable outcome of BLM's particular decision process. So long as the rationale for the various conflict resolutions is fully developed, not fully meeting any particular program policy statement is acceptable.

Issue # 8 — The Accuracy of the Biological Analysis of Wildlife Related Impacts in the Proposed Decision Document.

Some respondents charged that the proposed decision document overstated the negative effects of the action on wildlife. They said not enough credit was taken for the beneficial effects on wildlife from lands designated for non-timber purposes, such as fragile sites (TPCC) and riparian zones. The decline projected for Roosevelt elk was

called "absurd" because, they said, the elk don't need old-growth. The research used to project this decline also was said to have been faulty.

Response:

The idea that the impacts to wildlife cited in the EIS or proposed decision document were incorrect or overstated has not been raised by any of the agencies or organizations with expertise in the wildlife field. In fact, they said the impacts were understated in some instances.

In the analysis of impacts to wildlife, full consideration was given to all land classes. Each TPCC area, for example, was considered in relation to its size, shape, vegetative components, age, structure and location. Where these attributes had positive values for critical wildlife habitat, credit was taken.



The model used to project the impact of the proposed decision on Roosevelt elk uses a variety of environmental factors including thermal cover. Old-growth timber is considered by many to be the most effective form of thermal cover. This is not to say that elk need old-growth to survive as a species; it may mean that they need old-growth to survive in sufficient numbers to provide a large, huntable population on a sustained basis. Other factors influencing the model's projections included the size and spacing of clear cuts and the amount and variation of intensive management practices, such as thinnings.

It also is recognized that the ultimate impact of this decision on elk numbers is substantially identical in all but one of the alternatives, and not exclusive to this management plan. The one alternative projecting lesser declines in elk populations was judged to have too great an opportunity cost in terms of timber production to be reasonable.

Issue # 9 — The Reasonableness of the Projected Timber Management Intensity.

The allowable cut was said by some commenters to have been based on overly optimistic projections of the amount of growth that will result from the intensive management planned. Yield increases resulting from genetic improvement and fertilization in particular, were called professionally unjustifiable. The practice of adding the gains from different techniques, referred to as "piggybacking," was said to be unwarranted.

Concern was expressed that the long-term health of the forest would be damaged by pushing the system too hard with overly intensive management.

The 40-year minimum harvest age was cited as sacrificing prime growing stock which would, given a few years, produce greater volumes of higher value material. The concurrent large investment in more intensive management, and the excessive clear cut size also were cited as undesirable effects of a lower minimum harvest age.

Response:

Given the relatively recent introduction of intensive timber management in this region, honest technical disagreements can arise over the effectiveness of some practices. But to compute an allowable harvest level, one must project some view of the forest into the future. BLM used current technical information in developing its view of the future. For example, the "DFIT" model developed by the Pacific Northwest Forest & Range Experiment Station, was used to project future growth from most intensive management practices. It represented a combination of the latest technical information at the time it was used.

In the District, there was only enough harvest-age timber to presently capture 40 percent of the projected future increase in growth. Therefore, the projection of response from any individual practice would have to be vastly in error in order to significantly affect the allowable cut.

Another important safeguard, built into the planning process, is the policy to recompute the allowable cut at least every 10 years. This allows adjustments to capture new information on the workings of the forest ecosystem and to identify and correct faulty assumptions before they have too great an impact. An additional policy of specified 20-year planning

horizons is designed to limit futuristic assumptions regarding technology, growth enhancing practices, etc., to only those felt to be fully operational in the near term, and for which reasonably reliable yield data exist.

The non-declining harvest mandate itself is a hedge against going too far, too fast. One of the most commonly heard criticisms concerns its tendency to hold on to old-growth for relatively long periods of time. This can be beneficial when uncertainty exists regarding the long-term effects of an intensive timber management program.

The use of the 40-year Minimum Harvest Age (MHA) in the District was decided upon after a thorough analysis of various alternative MHA's. The 40-year MHA will produce about 3 percent less total volume over the next 200 years and will extend the time to reach a regulated forest by about 60 years when compared with a 50-year MHA. However, these negative attributes will be offset by increased harvest levels over the next four decades; a period which studies have identified as a time of critical timber supply shortage.

In about 30 to 40 years, when harvest is concentrated in the 40- to 60-year age classes, certain large areas of similar-age timber will be harvested entirely within a span of only about a decade — creating large areas of similar-age new growth. This effect possibly could be mitigated somewhat by purposely scheduling harvests in younger age classes during the next few decades. This possibility will be explored before the next allowable cut recomputation. The EIS analyzed the impacts of clear cut size associated with MHA 40 and MHA 50 on a common land base and did not identify any significant differences.

UNITED STATES DEPARTMENT OF THE INTERIOR

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